UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE: INTEREST RATE SWAPS ANTITRUST LITIGATION This Document Relates To: All Class Actions	No. 16 MD 2704 (PAE) **JURY TRIAL DEMANDED**

FOURTH CONSOLIDATED AMENDED CLASS ACTION COMPLAINT

TABLE OF CONTENTS

Plaintiffs Public School Teachers' Pension and Retirement Fund of Chicago, Los Angeles County Employees Retirement Association ("LACERA"), the Mayor and City Council of Baltimore, and Genesee County Employees' Retirement System (collectively, "Plaintiffs"), individually and on behalf of all persons and entities who from January 1, 2008, through the present (the "Class Period") entered into interest rate swaps transactions with Defendants in the United States, bring this antitrust class action for treble damages and injunctive relief.

Plaintiffs file this Fourth Consolidated Amended Class Action Complaint ("FAC") in accordance with the Court's March 13, 2019 Opinion and Order. Consistent with that Order, the FAC adds allegations concerning "the status during 2013-2016 of other platforms for the trading of IRS" as well as the "Dealers' actions during this period towards other platforms that carried the promise of enabling anonymous all-to-all IRS trading." Opinion at 64-65. In an abundance of caution, Plaintiffs note that, while certain references to pre-2013 are included for background purposes, the FAC does ***not***, in accordance with the March 13, 2019 Order, assert any claims covering 2008-2012. Plaintiffs reserve all rights, including all appellate rights, and this FAC in no way reflects the view that pre-2013 allegations are irrelevant or otherwise waives any applicable rights.

Plaintiffs allege as follows:

OVERVIEW OF THE ACTION

1. Interest rate swaps ("IRS") are an important financial tool used by an array of investment firms, operating companies, and governmental entities (collectively, "investors") in the United States and worldwide. IRS comprise one of the largest financial markets with hundreds of billions of dollars in swaps (in notional value) traded each day.

2. The most common type of IRS is an agreement between two parties to exchange interest-rate cash flows on a specific notional amount of principal for a fixed period of time. In a common (or "plain vanilla") swap, one party pays a *fixed* interest rate to a counterparty who, in return, pays a *floating* interest rate based on a specified financial benchmark. For example, one party might agree to pay a fixed interest rate on a $10 million notional amount for ten years in exchange for the other party paying a floating rate (such as one tied to the London Interbank Offered Rate, or "LIBOR") for that same ten-year period.

3. IRS allow investors, including Plaintiffs and other pension funds, asset managers, endowment funds, corporations, insurance companies, municipalities, hedge funds, and others (*i.e.*, members of the proposed Class here), to protect themselves from future changes in interest rates or to speculate on the movement of interest rates. IRS investors comprise what is known as the "buy side" of the IRS market, and they are both the "direct purchasers" and "end users" of IRS as those terms are used under the U.S. antitrust laws.

4. This case concerns a conspiracy among the large investment banks that for many years have acted as the primary "dealers" or "market makers" for IRS (the "Dealer Defendants"[1]). As detailed herein, the Dealer Defendants joined together as a cartel to protect their privileged position as dealers in the IRS market. Specifically, the Dealer Defendants conspired to prevent buy-side investors from trading IRS on modern all-to-all anonymous electronic trading platforms that provide more transparent and competitive trading options. They also conspired to prevent buy-side investors from trading with each other, thus ensuring that a dealer bank remains on one side of every trade.

[1] As defined more fully below, the Dealer Defendants are Bank of America, Barclays, BNPP, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JP Morgan, Morgan Stanley, RBS, and UBS.

5. The Dealer Defendants' conspiracy was secretly planned and implemented beginning in or around 2007 principally by members of their so-called "strategic investment" units, including those identified by name below. These intensely secretive units, about which little has ever been publicly disclosed, were comprised of personnel who considered it their job to work with their counterparts at other banks (*i.e.*, with their direct competitors) to neutralize threats to the banks' dominance of financial markets in which they served as dealers. In their own phraseology, these groups saw it as their role to protect the "dealer community" from the emergence of electronic exchanges and other forms of competitive, all-to-all trading that would "disintermediate" them by allowing the buy side to trade with counterparties other than dealers.

6. Simply put, the Dealer Defendants conspired to stop the IRS market from developing in ways that would help the buy side. The IRS market was historically an "over the counter" ("OTC") market, meaning it was a decentralized market in which investors traded through direct bilateral communication with dealers, rather than through an "all-to-all" electronic platform. Trading of IRS between dealers and the buy side was typically conducted by "voice" — *i.e.*, over the telephone. The voice-based, OTC market conferred tremendous advantages on the Dealer Defendants to the detriment of buy-side investors. The Dealer Defendants liked this market structure and wanted to preserve it.

7. Like many OTC markets, the IRS market was opaque and lacked transparency for buy-side investors, who were forced to rely exclusively on dealers for actionable, real-time price information. To obtain an actionable price quote from a dealer, a buy-side investor had to contact a dealer and disclose its identity, the intended direction of the trade (*i.e.*, whether the investor wanted to pay or receive the fixed rate), and the desired notional amount of the trade —

all of which is information buy-side investors do not typically want to disclose because dealers can use the insights gained from such disclosures to trade to their own advantage.

8. In the voice-based, OTC market, the buy side had little ability to benefit from direct price competition among dealers. To complete a transaction, dealers required buy-side investors to execute trades "on the wire," meaning executable prices were only available when the investor was physically on the phone with the dealer providing the price quote. Even then, the dealer could back away from a bid or ask price it had just given. This made it difficult for a buy-side investor to compare price quotes among dealers.

9. As a result of these features of the OTC market, the Dealer Defendants generated tremendous profits from their privileged position as dealers, year after year, primarily in the form of inflated "bid/ask spreads." For every IRS, a Dealer Defendant has a "bid" price, at which it will purchase the IRS, and an "ask" price, at which it will sell the IRS. When a dealer purchases an IRS at a lower bid price and then sells an IRS with the same terms at a higher ask price, the dealer realizes a profit on the difference (or the "bid/ask spread") between the lower and higher prices at which the dealer transacted. As a wealth of empirical literature and academic research confirms, in a voice-based, OTC market, bid/ask spreads are substantially wider than they would be in a more competitive market.[2]

10. But financial markets develop and evolve — or at least they are supposed to. Markets for financial products have consistently moved from OTC to exchanges or other all-to-all trading platforms soon after the products become sufficiently standardized and liquid, and IRS have long met this criteria. Specifically, IRS are well-suited for electronic trading protocols that facilitate an "all-to-all" trading environment. In an all-to-all trading environment, investors

[2] *See infra* ¶¶ 350-67.

can trade IRS anonymously in real time on electronic platforms, with live, executable pricing and with *any* qualified trading partner (not just the dealers). All-to-all trading provides greater transparency for buy-side investors and expands the number and type of potential counterparties with whom the buy side can trade. All-to-all trading would thus allow a buy-side investor to trade IRS with many non-dealer banks, central banks, hedge funds, pension funds, mutual funds, asset management firms, and other investors. Consequently, it yields more price competition and better prices for the buy side.

11. All-to-all electronic trading was a natural step for the IRS market, and it has long been desired by the buy side. By the 1990s, technological advances were bringing electronic trading to a variety of financial markets. Electronic trading in fixed income products[3] began in the mid-1990s and gathered momentum in the IRS market by the early 2000s. In 2003, Defendant ICAP launched an electronic IRS trading platform, although it chose to restrict that platform to dealer-to-dealer (or "interdealer") trading. Around that same time, Defendant Barclays launched a single-dealer electronic trading platform for IRS for its clients — an offering which, as explained below, the other Dealer Defendants perceived as a betrayal.

12. "Central clearing" was also a natural step for IRS and other derivatives products. Central clearing helps manage the risk a swap counterparty will default on its obligations by interposing a "clearinghouse" between the two counterparties to the swap. After the parties have agreed to a trade, the clearinghouse becomes the buyer to every seller and the seller to every buyer. By doing so, the clearinghouse reduces counterparty risk and helps facilitate all-to-all trading environments. By 2000, the Dealer Defendants were clearing their own interdealer IRS

[3] "Fixed income" refers to a financial instrument in which the counterparties are typically required to make payments of a fixed amount on a fixed schedule. IRS are considered "fixed income" instruments.

trades through SwapClear, a clearing platform operated by LCH.Clearnet, and the majority of interdealer IRS trades were cleared by the mid-2000s.[4]

13. By no later than 2007, therefore, the IRS market was poised and ready for all-to-all electronic trading. There was great buy-side demand for this development, and no infrastructure limitations or other technical impediments prevented it. As noted, however, the Dealer Defendants saw the emergence of all-to-all anonymous trading (including all-to-all anonymous request-for-quote ("RFQ") trading) as a threat to their privileged position in the market and collectively stopped it in its tracks. To ensure the IRS market would remain in an OTC-like environment, the Dealer Defendants conspired to implement roadblocks and monitoring and enforcement mechanisms at every step of the trading pipeline.

14. In late 2007, the Dealer Defendants became specifically concerned about plans by Defendant Tradeweb, which was then owned by Thomson Corp., to introduce a buy-side-friendly IRS trading platform that could include all-to-all trading. To respond to this threat, senior personnel from Goldman Sachs' strategic investment group devised a "dealer consortium" strategy. As part of this strategy, Goldman Sachs worked with its competitors (*i.e.*, the other Dealer Defendants) to take control of Tradeweb's IRS business in order to stop Tradeweb from introducing a buy-side friendly IRS trading platform. The Dealer Defendants recognized that, once they jointly neutralized the threat from Tradeweb, they could use Tradeweb as a forum to coordinate their efforts to maintain control of the IRS market and its infrastructure and to squash any other threats that arose going forward.

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[4] As detailed below, however, the Dealer Defendants used their control over SwapClear and took other steps as part of their cartel to ensure that clearing services for IRS were not available for buy-side investors. *See* Section II.D. *infra*.

15. In October 2007, as part of a plan they named "Project Fusion," the Dealer Defendants (specifically, Credit Suisse, Deutsche Bank, Goldman Sachs, JP Morgan, Morgan Stanley, RBS, and UBS, later joined by Citigroup, Bank of America, and Barclays) purchased 80% of the Tradeweb entity that housed its IRS business. Reflecting the secretive nature of their conspiracy, however, the Dealer Defendants did not publicly disclose that they were taking *control* of Tradeweb's IRS business. Instead, as detailed below (*see infra* ¶¶ 113-19), the Dealer Defendants and Tradeweb issued a series of press releases that misleadingly portrayed their investment in Tradeweb as merely a "minority" investment designed to give the platform a "boost."

16. Tradeweb agreed with the Dealer Defendants, against its own economic self-interest, to shutter the possibility of offering buy-side investors access to competitive IRS trading. Tradeweb scrapped its plans to introduce such a platform, and it has abided by that agreement to the present day.

17. As they had planned, the Dealer Defendants also used Tradeweb secretly to coordinate their actions in the IRS market under the cover of a supposedly lawful and independent enterprise. They installed key personnel on Tradeweb's boards of directors and a variety of other "committees," and those personnel (including those identified by name below) regularly held secret meetings under the auspices of these boards and committees about how to maintain their dominance of the IRS market. The Dealer Defendants actively used Tradeweb as a forum to hold secret conspiratorial discussions throughout the Class Period.

18. In connection with those and other meetings detailed below, the Dealer Defendants agreed to work together to prevent the buy side from trading on modern, open, and competitive IRS trading platforms. They agreed to jointly boycott any platforms that facilitated

greater competition among dealers or permitted buy-side investors to trade directly with each other. They pledged to provide liquidity to Tradeweb and other platforms that were under their control or abided by their wishes and not to provide significant liquidity to platforms that posed a threat to their collective interests. They discussed how to police their conspiracy (including by mandating a monitoring practice known as "name give-up," discussed below[5]), and they agreed to punish platforms that they discovered were giving the buy side access to all-to-all trading. And, as detailed herein, the Dealer Defendants in fact did everything they had agreed to do.

19. The Dealer Defendants' collusion imposed significant financial harm on IRS investors. The Dealer Defendants are themselves well aware of the benefits investors would enjoy from being able to engage in open and transparent IRS trading on electronic platforms. In fact, the Dealer Defendants know the benefits of all-to-all trading first-hand because they use similar protocols when trading *with each other* in the interdealer market. For years, interdealer brokers ("IDBs") like ICAP have hosted platforms that allow the dealers to stream continuous bid and offer prices to each other, creating an environment where the best available prices in the market are visible to and executable by all of the dealers participating on the platform.

20. As part of their conspiracy, however, the Dealer Defendants have ensured that the electronic trading platforms operated by the IDBs remain *exclusive territory of the dealers*. At various times during the Class Period, certain IDBs, including ICAP, determined it would be in their independent interest to open their platforms to the buy side and took steps to do so. But the Dealer Defendants made sure that any IDB that took those steps would be discovered by the dealers and then punished. Employing a hockey metaphor, the Dealer Defendants referred to this punishment as putting the IDB in the "penalty box" — meaning it would be unable to participate

[5] *See* Section II.F. *infra*.

in the market and thus deprived of the brokerage fees it needs to survive. As a result of these punitive measures, the Dealer Defendants have maintained control over the IDBs, which continue to allow only *dealer-to-dealer* transactions on their platforms. Through these efforts, the Dealer Defendants have "shut out" buy-side investors from the "paradise of infinite liquidity and tight pricing" that the Dealer Defendants themselves enjoy.[6]

21. As a result of their conspiracy, therefore, the IRS market is artificially bifurcated: on one side of the market is an efficient *dealer-to-dealer* market, where information is transparent and bid/ask prices are set by market forces; on the other side is an inefficient *dealer-to-client* market where investors must trade with select dealers and cannot trade with one another. Absent the Dealer Defendants' collusion, this artificial bifurcation of the IRS market would have disappeared long ago. In recent years, however, it has become all too clear that collusion was rampant at these Wall Street banks, which lacked meaningful safeguards or oversight to prevent collusion. To the contrary, they had a pervasive culture of pursuing short-term profits at any cost. In their pursuit of this goal, the banks established mechanisms and forums for illicit conversations among competitors in order to advance the banks' collective financial interests over those of their customers. As detailed herein, they used these mechanisms and forums for collusion to conspire in the IRS market.

22. The Dealer Defendants' conspiracy was long shielded from public view because Defendants engaged in extensive efforts to keep their collusion secret. Defendants' conspiracy only recently came to light when they were forced to take more overtly aggressive actions to squash competition following Congressional action. In the Dodd-Frank Wall Street Reform and

[6] Joe Rennison, *Meet the New OTC Market-Makers*, RISK (Feb. 27, 2014), http://www.risk.net/risk-magazine/feature/2331122/meet-the-new-otc-market-makers.

Consumer Protection Act of 2010 ("Dodd-Frank" or the "Dodd-Frank Act"), Congress sought to bring more competition to derivatives markets, including the IRS market, by mandating that certain IRS be centrally cleared and traded on exchanges or "Swap Execution Facilities" ("SEFs"). SEFs were envisioned as all-to-all trading platforms that would allow the buy side to trade with one another, as well as with dealers.

23. Following Dodd-Frank, multiple companies invested millions of dollars and years of effort to build SEFs open to the buy side. These SEFs which planned to "loosen[] the stranglehold that the [Dealer Defendants] have on the multi-trillion dollar [IRS] market"[7] included TeraExchange Inc. ("TeraExchange"), Javelin Capital Markets LLC ("Javelin"), and TrueEX Group LLC ("TrueEX"). As detailed below, however, the efforts by these companies to bring new solutions to the market were unsuccessful because Defendants jointly prevented them from succeeding.

24. TeraExchange, for example, built an award-winning order book designed to allow anonymous, all-to-all IRS trading by buy-side investors. TeraExchange enlisted support from many large trading firms that were poised to provide liquidity to its platform — and at *tighter* bid/ask spreads than those typically offered by the Dealer Defendants. But, as detailed below, the Dealer Defendants took a highly coordinated series of actions to prevent trades from taking place on TeraExchange. Among other things, the Dealer Defendants denied their buy-side clients access to the clearing services that are preconditions for such trades.

25. By June 2014, while battling these and other roadblocks, TeraExchange was finally able to process a single IRS trade on its platform between two buy-side entities. But

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[7] Charles Levinson, *Startup Challenges Dominance of Big Banks in Derivatives Markets*, REUTERS (Mar. 10, 2015), http://www.reuters.com/article/2015/03/10/markets-derivatives-exchange-insight-gra-idUSL1N0WB2D520150310.

because Defendant BNPP's clearing office served as the clearing agent, BNPP learned immediately that the trade had taken place. BNPP's clearing office notified its trading desk, and the trading desk contacted the buy-side parties to the trade, threatening them with a loss of access to clearing and other banking services if they dared to trade again on TeraExchange's platform. The next business day, BNPP and Defendants Citi, JP Morgan, and UBS separately contacted TeraExchange, each demanding to "audit" TeraExchange's rulebook and each stating they would not help clear any further trades on TeraExchange's platform until the "audit" was complete.

26. These banks had no genuine need to conduct any such audit and never actually intended to do so (and never did). Nor did they have any legitimate basis for refusing to clear trades on TeraExchange's platform. But the fact that each of these banks made this pretextual demand and threat on the same day, in the same manner, and in response to the same single trade being executed on TeraExchange, reflects the Dealer Defendants' determination to squash TeraExchange and their high level of coordination. Indeed, multiple Dealer-Defendant personnel told TeraExchange that the Dealer Defendants had determined they would not let TeraExchange survive because it was viewed as a "Trojan Horse" — if the Dealer Defendants allowed TeraExchange to enter the market, it could destroy their market dominance.

27. The Dealer Defendants took similarly aggressive steps, also detailed below, to boycott Javelin and to limit TrueEx to facilitating buy-side trading under an RFQ protocol that largely imposes the same limitations as the voice-based, OTC trading model. As a result of the Dealer Defendants' conspiratorial efforts, the only SEFs that have meaningful buy-side trading activity today, six years after Dodd-Frank, effectively require that platform participants trade directly with a dealer under OTC-like protocols — thus denying the buy side the benefits of all-to-all trading.

28. The Dealer Defendants conspired because they "want desperately to preserve the status quo" of the OTC market,[8] and they have succeeded in stopping meaningful development of the market. Perversely, many regard the IRS market as even *less* efficient today than it was in 2008. The General Counsel of Tradeweb, Douglas Friedman, acknowledged at SEFCON, a 2015 industry conference, that the "mode of execution has largely stayed the same" for IRS investors.[9] Larry Tabb, the Founder and CEO of the TABB Group LLC, a market research firm, recently described the market for IRS as "basically the same two-tiered market of before [Dodd-Frank] with a greater percentage of the market cleared." Will Rhode, Director of Fixed-Income Research at Tabb Group LLC, noted in 2014 that "[t]he walls are not coming down."[10] Michael Koegler, former Managing Director at Javelin has similarly observed: "Almost all of the [dealer-to-client] business being done in the market is happening via RFQ which is essentially *business as usual*."[11]

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[8] *Id.*

[9] "SEFCON" is an annual industry event featuring panels composed of representatives from dealers, SEFs, buy-side firms, and government regulators. All references to "SEFCON" herein are to "SEFCON VI," which was held on October 26, 2015, at the Waldorf Astoria in New York City, unless otherwise noted. All quotes attributed to SEFCON speakers were made during speeches or panel discussions. *See also* BANK FOR INT'L SETTLEMENTS, ELECTRONIC TRADING IN FIXED INCOME MARKETS 12 (2016), http://www.bis.org/publ/mktc07.pdf ("*The majority of swap trading still occurs in response to an RFQ, rather than via a [central limit order book]*. The growth in electronic trading has allowed some PTFs to enter as liquidity providers, but *banks remain the dominant market-makers*." (emphases added)).

[10] Matthew Leising, *Swaps Revolution Falling Flat as Brokers Keep Grip on New Market*, BLOOMBERG (Mar. 4, 2014), http://www.bloomberg.com/news/articles/2014-03-05/swaps-revolution-falling-flat-as-brokers-keep-grip-on-new-market.

[11] Jesse Collin, *SEF NY Interview: Michael Koegler, Managing Director, Javelin Capital Markets*, TOTAL ASSET (Aug. 18, 2014), http://blogs.terrapinn.com/total-asset/2014/08/18/sef-ny-interview-michael-koegler-managing-director-javelin-capital-markets/ (emphasis added).

29. This action is brought under the federal antitrust laws to address the "supreme evil of antitrust"[12] — collusion among companies that are, in our free market economy, supposed to compete. While Dodd-Frank sought to bring more competition to the IRS market, Congress did *not* direct the Commodity Futures Trading Commission (the "CFTC"), the Dodd-Frank Act's primary regulator, to police collusion among the banks or to address the artificial bifurcation of the IRS market. Instead, Congress expressly preserved the crucial and longstanding role of the antitrust laws in addressing unlawful collusion. *See* 12 U.S.C. § 5303 (2010) ("Nothing in this Act, or any amendment made by this Act, shall be construed to modify, impair, or supersede the operation of any of the antitrust laws, unless otherwise specified.").[13]

30. Indeed, the need for the antitrust laws in this case is especially strong, given that the Dealer Defendants' conspiracy is ongoing, and they continue to take steps to shield it from scrutiny. In October 2016, Bloomberg reported that a "secret society" of the "top in-house lawyers for some of the world's most powerful banks" met at Versailles in France in late May 2016 to discuss the terms on which they would settle this and other financial antitrust litigation.[14] Two insiders who attended the meeting revealed that the banks' lawyers expressly discussed that no bank should settle any such lawsuit prior to the banks moving to dismiss the case and for at least sixty days thereafter. In other words, when Defendants filed a motion to dismiss in this case, predictably arguing that it was "implausible" that they conspired, they did so after having

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[12] *Verizon Commc'ns v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 408 (2004).

[13] *See also* H.R. REP. NO. E1347-01 (2010) (Conf. Rep.) (statement of Rep. Conyers, Jr.), 2010 WL 2788137 ("The final bill contains a number of provisions to ensure that the antitrust laws remain fully in effect.").

[14] Greg Farrell & Keri Geiger, *Inside the Secret Society of Wall Street's Top In-House Lawyers*, BLOOMBERG (Oct. 14, 2016), https://www.bloomberg.com/news/articles/2016-10-14/what-top-bank-lawyers-were-doing-at-secret-versailles-summit.

illicitly agreed that none would break ranks to settle these claims until well after that motion was filed.

JURISDICTION AND VENUE

31. Plaintiffs bring this action under Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 and 26, to recover treble damages and costs of suit, including reasonable attorneys' fees, against Defendants for the injuries to Plaintiffs and the Class, alleged herein, arising from Defendants' violations of Section 1 of the Sherman Act, 15 U.S.C. § 1.

32. This Court has subject matter jurisdiction over this action pursuant to Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15(a) and 26, as well as pursuant to 28 U.S.C. §§ 1331 and 1337(a).

33. Venue is proper in this District pursuant to 15 U.S.C. §§ 15(a) and 22, as well as pursuant to 28 U.S.C. § 1391(b), (c), and (d), because during the relevant period all the Defendants resided, transacted business, were found, or had agents in this District; a substantial part of the events or omissions giving rise to these claims occurred in this District; and a substantial portion of the affected interstate trade and commerce discussed herein was carried out in this District.

34. Defendants' activities, and those of their co-conspirators, were within the flow of, were intended to, and had a substantial effect on interstate commerce.

35. Pursuant to the nationwide contacts test provided for by 15 U.S.C. § 22, many Defendants are subject to personal jurisdiction in the United States because they, as set forth below, were formed in or have their principal places of business in the United States. In addition, all members of the conspiracy are subject to personal jurisdiction in the United States because the conspiracy was directed at, carried out in substantial part in, and had the intended effect of, causing injury to Plaintiffs and class members residing in, located in, or doing business

throughout the United States. For example, and as set forth more fully below, the Defendants directly conspired through and with Tradeweb, whose principal place of business is in New York City, and at Tradeweb Board of Directors meetings in Miami and elsewhere. Defendants also conspired to boycott SEFs, such as Javelin, TeraExchange, and TrueEx, all based in New York City.

36. The Dealer Defendants are also subject to personal jurisdiction here because they each transacted business throughout the United States, including in this District, that was directly related to the claims at issue in this action. The contracts governing the IRS at issue in this action often included a clause submitting the parties to jurisdiction in this District. And the IRS at issue were regularly traded through the desks of the Dealer Defendants located in New York City. The Dealer Defendants are also subject to personal jurisdiction here because their affiliates and subsidiaries traded IRS in the United States as their agents, and if they did not, the Dealer Defendants would have to have made those trades themselves.

PARTIES

A. Plaintiffs

37. Established by the Illinois state legislature in 1895, the Public School Teachers' Pension and Retirement Fund of Chicago (also, the "Chicago Teachers' Pension Fund" or "CTPF") is the administrator of a defined benefit public employee retirement system, providing retirement, survivor, and disability benefits for certain certified teachers and employees of the Chicago Public Schools. During the Class Period, CTPF entered into IRS transactions directly with multiple Dealer Defendants.

38. Plaintiff Los Angeles County Employees Retirement Association ("LACERA") is a public pension fund organized under California's County Employee Retirement Law of 1937, Cal. Gov't Code §§ 31450 et seq., with its principal place of business in Pasadena, California.

LACERA has provided retirement, disability, and death benefits to eligible County employees, retirees, and their beneficiaries since 1938. As of June 30, 2016, LACERA had over 165,000 members and held net assets in trust for pension benefits totaling $53.8 billion. During the Class Period, LACERA entered into IRS transactions directly with multiple Dealer Defendants. The Mayor and City Council of Baltimore ("Baltimore") is an independent city in the State of Maryland. During the Class Period, Baltimore entered into IRS transactions directly with multiple Dealer Defendants.

39. Plaintiff Genesee County Employees' Retirement System ("Genesee") is a multiple-employer defined benefit pension plan with its principal place of business in Flint, Michigan. Participating employer units include Genesee County, Genesee County Road Commission, Genesee County Health Systems, Genesee County Division of Water and Waste Services, Genesee District Library, and the City of Mt. Morris. During the Class Period, Genesee transacted in IRS with multiple Dealer Defendants.

B. Defendants

40. Whenever reference is made to any act, deed, or transaction of any entity, the allegation means that the corporation engaged in the act, deed, or transaction by or through its subsidiaries, affiliates, officers, directors, agents, employees, or representatives while they were actively engaged in the management, direction, control, or transaction of the entity's business or affairs.

41. Defendant Bank of America Corporation ("BAC") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in Charlotte, North Carolina. During the Class Period, BAC was a shareholder in Tradeweb. Defendant Bank of America, N.A. ("BANA") is a federally chartered national banking association with its principal place of business in Charlotte, North Carolina, and branch locations in New York, New

York. BANA is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. In addition, as part of the conspiracy, BANA agreed with the other Defendants to boycott the SEFs, which are located in New York. On January 1, 2009, Bank of America acquired Merrill Lynch & Co., Inc. Defendant Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPFS") is a corporation organized and existing under the laws of the State of Delaware with its principal place of business in New York, New York. MLPFS is registered as a broker-dealer with the U.S. Securities and Exchange Commission ("SEC"), and as a futures commission merchant ("FCM") with the CFTC.

42. As used herein, the term "**Bank of America**" includes Defendants BAC, BANA, MLPFS, and their subsidiaries and affiliates, including Merrill Lynch & Co. and Merrill Lynch Bank USA, that entered into IRS contracts with the Class, including as a dealer. During the Class Period, Bank of America directly sold IRS to and bought IRS from class members. Bank of America also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

43. Defendant Barclays Bank PLC is a corporation organized and existing under the laws of England and Wales, with its principal place of business in London, England and branch locations in New York, New York. Barclays Bank PLC is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. In addition, as part of the conspiracy, Barclays Bank PLC agreed with the other Defendants to boycott the SEFs, which are located in New York. During the Class Period, Barclays Bank PLC was a shareholder of Tradeweb. Defendant Barclays Capital Inc. is a corporation organized and existing under the laws of the State of Connecticut, with its principal

place of business in New York, New York. Barclays Capital Inc. is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

44. As used herein, the term "**Barclays**" includes Defendants Barclays Bank PLC, Barclays Capital Inc., and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. Barclays Bank PLC maintains a New York branch. Barclays transacts business in New York, New York. During the Class Period, Barclays, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. Barclays also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

45. Defendant BNP Paribas, S.A. ("BNPP SA") is a corporation organized and existing under the laws of the France, with its principal place of business in Paris, France and branch locations in the United States, including its New York, New York branch. BNPP SA is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. In addition, as part of the conspiracy, BNPP SA agreed with the other Defendants to boycott the SEFs, which are located in New York. Defendant BNP Paribas Securities Corp. ("BNPP Securities") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. BNPP Securities is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

46. As used herein, the term "**BNPP**" includes Defendants BNPP SA, BNPP Securities, and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. BNPP transacts business in New York, New York. During the Class Period, BNPP, itself and through its affiliate agents, directly sold IRS to and bought IRS from

class members. BNPP also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

47. Defendant Citigroup, Inc. ("Citigroup") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. During the Class Period, Citigroup was a shareholder of Tradeweb. Defendant Citibank N.A. ("Citibank") is a federally chartered national banking association with its principal place of business in New York, New York. Defendant Citigroup Global Markets Inc. is a corporation organized and existing under the laws of the State of New York, with its principal place of business in New York, New York. Defendant Citigroup Global Markets Limited is a corporation organized and existing under the laws of England and Wales, with its principal place of business in London, England. Citibank, Citigroup Global Markets Inc., and Citigroup Global Markets Limited are registered swap dealers with the CFTC, and, during the Class Period, each entered into IRS contracts in the United States with the Class, including as a dealer. In addition, as part of the conspiracy, Citibank, Citigroup Global Markets Inc., and Citigroup Global Markets Limited agreed with each other and with the other Defendants to boycott the SEFs, which are located in New York. In addition, Citigroup Global Markets Inc. is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

48. As used herein, the term "**Citi**" includes Defendants Citigroup, Citibank, Citigroup Global Markets Limited, Citigroup Global Markets Inc., and their subsidiaries and affiliates, including but not limited to Citigroup Energy Inc., that entered into IRS contracts with the Class, including as a dealer. During the Class Period, Citi, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. Citi also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

49. Defendant Credit Suisse Group AG is a corporation organized and existing under the laws of Switzerland with its principal place of business in Zurich, Switzerland. During the Class Period, Credit Suisse Group AG was a shareholder of Tradeweb. Defendant Credit Suisse International is a bank organized and existing under the laws of England and Wales, with its principal place of business in London, England. Credit Suisse International is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. In addition, as part of the conspiracy, Credit Suisse International agreed with the other Defendants to boycott the SEFs, which are located in New York. Defendant Credit Suisse Securities (USA) LLC is a corporation organized and existing under the laws of the State of Delaware with its principal place of business in New York, New York. Credit Suisse Securities (USA) LLC is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

50. As used herein, the term "**Credit Suisse**" includes Defendants Credit Suisse Group AG, Credit Suisse International, Credit Suisse Securities (USA) LLC, and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. Credit Suisse transacts business in New York, New York. During the Class Period, Credit Suisse, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. Credit Suisse also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

51. Defendant Deutsche Bank AG is a corporation organized and existing under the laws of Germany with its principal place of business in Frankfurt, Germany. Deutsche Bank AG is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. And, as part of the

conspiracy, Deutsche Bank AG agreed with the other Defendants to boycott the SEFs, which are located in New York. In addition, during the Class Period, Deutsche Bank AG was a shareholder of Tradeweb. Defendant Deutsche Bank Securities Inc. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. In addition, Deutsche Bank Securities Inc. is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

52. As used herein, the term "**Deutsche Bank**" includes Defendant Deutsche Bank AG, Deutsche Bank Securities Inc., and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. Deutsche Bank transacts business in New York, New York, and maintains a New York branch. During the Class Period, Deutsche Bank, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. Deutsche Bank also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

53. Defendant The Goldman Sachs Group, Inc. ("Goldman Sachs Group") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. During the Class Period, Goldman Sachs Group was a shareholder of Tradeweb. Defendant Goldman Sachs & Co. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. Defendant Goldman Sachs Bank USA is a New York state-chartered bank and a member of the Federal Reserve's system, with its principal place of business in New York, New York. Defendant Goldman Sachs Financial Markets, L.P. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. Defendant Goldman Sachs International is a bank organized and existing

under the laws of England and Wales, with its principal place of business in London, England, and is a wholly owned subsidiary of Goldman Sachs Group. Goldman Sachs & Co.; Goldman Sachs Bank USA; Goldman Sachs Financial Markets, L.P.; and Goldman Sachs International are registered swap dealers with the CFTC, and, during the Class Period, each entered into IRS contracts in the United States with the Class, including as a dealer. And, as part of the conspiracy, Goldman Sachs & Co.; Goldman Sachs Bank USA; Goldman Sachs Financial Markets, L.P.; and Goldman Sachs International agreed with each other and with the other Defendants to boycott the SEFs, which are located in New York. In addition, Goldman Sachs & Co. is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

54. As used herein, the term "**Goldman Sachs**" includes Defendants Goldman Sachs Group, Goldman Sachs & Co., Goldman Sachs Bank USA, Goldman Sachs Financial Markets, L.P., Goldman Sachs International, and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. During the Class Period, Goldman Sachs, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. Goldman Sachs also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

55. Defendant J.P. Morgan Chase & Co. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. During the Class Period, J.P. Morgan Chase & Co. was a shareholder of Tradeweb. Defendant J.P. Morgan Chase Bank, N.A. is a federally chartered national banking association with its principal place of business in New York, New York. Defendant J.P. Morgan Securities LLC (also known as "J.P. Morgan Securities Inc.") is a corporation organized and existing under the laws of Delaware, with its principal place of business in New York, New York. Defendant J.P.

Morgan Securities Plc is a corporation organized and existing under the laws of England and Wales, with its principal place of business in London, England, and it is a wholly owned subsidiary of J.P. Morgan Chase & Co. J.P. Morgan Chase Bank, N.A.; J.P. Morgan Securities LLC; and J.P. Morgan Securities Plc are registered swap dealers with the CFTC, and, during the Class Period, each entered into IRS contracts in the United States with the Class, including as a dealer. And, as part of the conspiracy, J.P. Morgan Chase Bank, N.A.; J.P. Morgan Securities LLC; and J.P. Morgan Securities Plc agreed with each other and with the other Defendants to boycott the SEFs, which are located in New York. In addition, J.P. Morgan Securities LLC is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

56. As used herein, the term "**JP Morgan**" includes Defendants J.P. Morgan Chase & Co., J.P. Morgan Chase Bank, N.A., J.P. Morgan Securities LLC, J.P. Morgan Securities Plc, and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. During the Class Period, JP Morgan, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. JP Morgan also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

57. Defendant Morgan Stanley ("MS") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. During the Class Period, MS was a shareholder of Tradeweb. Defendant Morgan Stanley Bank, N.A. is a federally chartered national banking association with its principal place of business in Salt Lake City, Utah. Defendant Morgan Stanley & Co. LLC ("MS&C") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. Defendant Morgan Stanley Capital Services LLC is a corporation organized and existing under the laws of the State of Delaware, with its principal

place of business in New York, New York. Defendant Morgan Stanley Derivative Products Inc. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in New York, New York. Defendant Morgan Stanley & Co. International plc is a corporation organized and existing under the laws of England and Wales, with its principal place of business in London, England, and is a subsidiary of Morgan Stanley UK Group, the ultimate parent of which is MS. Defendant Morgan Stanley Bank International Limited is a bank organized and existing under the laws of England and Wales, with its principal place of business in London, England, and is a wholly owned subsidiary of Morgan Stanley International Holdings Inc., the ultimate parent of which is MS. Morgan Stanley Bank, N.A.; MS&C; Morgan Stanley Capital Services LLC; Morgan Stanley Derivative Products Inc.; Morgan Stanley & Co. International plc; and Morgan Stanley Bank International Limited are registered swap dealers with the CFTC, and, during the Class Period, each entered into IRS contracts in the United States with the Class, including as a dealer. And, as part of the conspiracy, Morgan Stanley Bank, N.A.; MS&C; Morgan Stanley Capital Services LLC; Morgan Stanley Derivative Products Inc.; Morgan Stanley & Co. International plc; and Morgan Stanley Bank International Limited agreed with each other and with the other Defendants to boycott the SEFs discussed herein, which are located in New York. In addition, MS&C is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

58. As used herein, the term "**Morgan Stanley**" includes Defendants MS; Morgan Stanley Bank, N.A.; MS&C; Morgan Stanley Capital Services LLC; Morgan Stanley Derivative Products Inc.; Morgan Stanley & Co. International plc; Morgan Stanley Bank International Limited, and their subsidiaries and affiliates, including Morgan Stanley Capital Group Inc. and Morgan Stanley Capital Products LLC, that entered into IRS contracts with the Class, including

as a dealer. During the Class Period, Morgan Stanley, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. Morgan Stanley also agreed with other Defendants to boycott the SEFs, which are located in New York.

59. Defendant Royal Bank of Scotland PLC ("RBS PLC") is the primary operating bank of Defendant The Royal Bank of Scotland Group PLC ("RBS Group PLC"), a corporation organized and existing under the laws of England and Wales with its principal place of business in Edinburgh, Scotland and regional offices in New York, New York and Stamford, Connecticut. RBS PLC is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. And, as part of the conspiracy, RBS PLC agreed with the other Defendants to boycott the SEFs, which are located in New York. In addition, during the Class Period, RBS Group PLC was a shareholder of Tradeweb. Defendant RBS Securities Inc. is a corporation organized and existing under the laws of Delaware, with its principal place of business in Stamford, Connecticut, and is a wholly owned subsidiary of RBS PLC. In addition, RBS Securities Inc. is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

60. As used herein, the term "**RBS**" includes Defendants RBS PLC, RBS Group PLC, RBS Securities Inc., and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. RBS PLC maintains a New York branch. RBS transacts business in New York, New York. During the Class Period, RBS, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. RBS also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

61. Defendant UBS AG is a corporation organized and existing under the laws of Switzerland with its principal places of business in Basel and Zurich, Switzerland and regional

offices in New York, New York and Stamford, Connecticut. UBS AG is a registered swap dealer with the CFTC, and, during the Class Period, it entered into IRS contracts in the United States with the Class, including as a dealer. And, as part of the conspiracy, UBS AG agreed with the other Defendants to boycott the SEFs, which are located in New York. In addition, during the Class Period, UBS AG was a shareholder of Tradeweb. Defendant UBS Securities LLC is a corporation organized and existing under the laws of Delaware, with its principal place of business in New York, New York, and is an indirect wholly owned subsidiary of UBS AG. In addition, UBS Securities LLC is registered as a broker-dealer with the SEC, and as an FCM with the CFTC.

62. As used herein, the term "**UBS**" includes Defendants UBS AG, UBS Securities LLC, and their subsidiaries and affiliates that entered into IRS contracts with the Class, including as a dealer. UBS maintains a New York branch and transacts business in New York, New York. During the Class Period, UBS, itself and through its affiliate agents, directly sold IRS to and bought IRS from class members. UBS also agreed with other Defendants to boycott the SEFs discussed herein, which are located in New York.

FACTUAL ALLEGATIONS

I. OVERVIEW OF THE INTEREST RATE SWAPS MARKET

A. Interest Rate Swaps Generally

63. An IRS is a type of financial derivative. It is an agreement between two parties to trade interest-rate cash flows on a specific amount of money for a fixed period of time. In the most common type of swap, one counterparty pays the other a *fixed* interest rate in exchange for receiving a *floating* interest rate. The floating rate is often tied to an industry benchmark (or "reference rate"), such as LIBOR. The counterparty paying a fixed rate is typically referred to as the "buyer," and the counterparty making payments at the floating rate is known as the "seller."

64. A vibrant IRS market benefits investors and the U.S. economy. In addition to allowing investors to protect against future fluctuations of interest rates and adverse events, IRS also enable borrowers to raise capital more cheaply and thus provide more funding to help the economy grow. The buy side suffers significant harm when dominant IRS market participants restrain competition and limit transparency. Both the buy side and the nation's economy as a whole are harmed when beneficial IRS trades do not occur because of the artificially higher costs of trading in a market that is not competitive.

65. In the early days of IRS trading, IRS contracts were not yet standardized and typically had to be negotiated and documented on a trade-by-trade basis. As a result, IRS trading involved high transaction costs. Nonetheless, because IRS allowed parties to manage and hedge against movements in interest rates, they became widely used by a variety of investors. Some buy-side entities also began to use IRS to speculate on movements in interest rates.

66. Over time, IRS trading became more standardized. In 1987, the International Swaps and Derivatives Association ("ISDA"), created the ISDA Master Agreement, which outlines standard terms to govern OTC derivatives transactions, and became widely used. By no later than 2000, all of the material terms of most IRS — including the tenor (*i.e.*, the maturity or term of the swap), the fixed rate, the reference index used to calculate floating payments, the payment frequency, and the timing of payments — were standardized, resulting in lower transaction costs and higher trading volumes. As a result, counterparties can enter into an IRS by simply agreeing upon the tenor, notional amount, fixed rate, and floating rate index.

67. The IRS market has grown exponentially over the last three decades. By 2006, the outstanding notional quantity of IRS was approximately $230 trillion. By 2014, it was approximately $381 trillion.

B. Trading of Interest Rate Swaps

68. As demand for IRS increased, the Dealer Defendants positioned themselves as the exclusive market makers providing liquidity in the IRS market. They became the "dealers" of IRS, offering fixed- and floating-rate cash flows to the buy side.

69. Dealers primarily profit from the "bid/ask" spread. In a typical IRS trade, a buy-side customer asks a dealer for a quote either to pay the floating rate and receive a fixed rate, or to pay the fixed rate and receive a floating rate. The rate at which the dealer will pay the fixed rate is known as the "bid," and the rate at which it will receive the fixed rate is known as the "offer" or the "ask." In a simple example, a five-year IRS may be quoted by a dealer at a bid of 2.00% and an ask of 2.05%, meaning that the dealer will either pay the fixed rate at a 2.00%, or receive a fixed rate of 2.05%. The difference between the bid of 2.00% and the ask of 2.05% is referred to as the "bid/ask spread" (or "bid/offer spread" or "spread"). The floating rate in either case is typically based on LIBOR or another reference rate. A buy-side entity seeking to pay the floating and receive the fixed rate will receive the "bid" price quoted by a dealer for the fixed rate. A buy-side entity seeking to pay the fixed rate and receive the floating rate will pay the "ask" or "offer" price quoted by a dealer for the fixed rate.

70. Generally speaking, the wider the spread between the bid and ask prices, the more money the Dealer Defendant makes and the more the IRS costs for the buy side. The mid-point of the spread is generally considered to be the mid-market price.

71. As noted, trading of IRS between dealers and buy-side investors historically occurred in a voice-based, OTC market environment. Trading was largely conducted over the telephone, which imposes several limitations on the trading capabilities of the buy side, while providing significant advantages to the Dealer Defendants.

72. Like many OTC markets, the IRS market has been very opaque for investors. Voice-based trading in IRS forced the buy side to rely exclusively on the dealers for real-time pricing information because there was very little (or no) reliable pre-trade pricing visibility. Calling all available dealers for price information was not realistic, so investors would typically engage a small number of dealers. In order to obtain a quote, a buy-side entity would have to disclose to each dealer it called its identity, the direction of its intended trade (*i.e.*, whether it wanted to pay or receive the fixed rate), and notional amount. This provided a one-way information flow about upcoming trades to the dealer, which it could use to its own trading advantage.

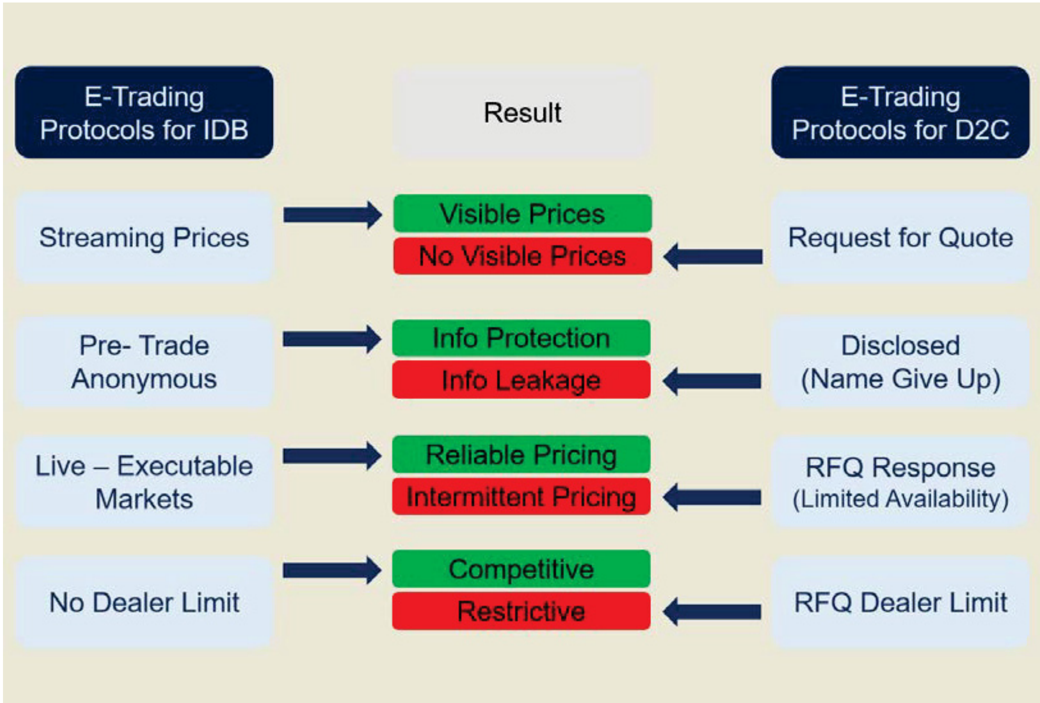
73. Dealers required buy-side investors to execute trades "on the wire," which means price quotes were only actionable when the investor was on the phone with the dealer. This prevented buy-side investors from shopping around to many dealers, comparing all of the quotes, and forcing dealers to compete directly on price. Dealers also often required buy-side entities to announce if they were putting one dealer "in competition" with other dealers, further minimizing price competition. Thus, buy-side entities were rarely able to avail themselves of the best prices in the market.

74. Technology had the potential to make IRS trading much more efficient, transparent, and competitive for the buy side, just as it had done in other financial markets. Electronic trading in fixed income was introduced in the mid-1990s and began gathering momentum in the IRS market in the early 2000s. In 2003, ICAP launched an electronic platform for dealer-to-dealer trading. Around that same time, Barclays launched a multi-currency IRS trading platform on Bloomberg, which was the first single-dealer electronic trading platform for IRS. As discussed below, the other Dealer Defendants perceived this launch as a betrayal.

75. In the IRS market, however, the dealer-to-dealer and the dealer-to-client segments took very different developmental paths. The former developed, but the latter did not (because of Defendants' collusion). While the IDB platforms that support dealer-to-dealer trading evolved to promote transparency, ease of access, speed of execution, and reduced trading costs, the dealer-to-client market segment still to this day utilizes protocols that largely replicate many of the limitations of the voice-based, OTC practices.

76. As discussed further below, while some entities have launched IRS trading platforms for buy-side customers in the past few years, those platforms that have been able to survive in the market do not, as a result of Defendants' conspiracy, alter the limitations of the OTC market. These trading platforms typically use a dealer-to-client RFQ protocol whereby an investor can request quotes from several dealers, but from no one else. This basically amounts to an investor calling dealers to obtain quotes, except using electronic messages instead of the telephone. As with a voice-based transaction, the RFQ protocol on these platforms is not anonymous — the investor must disclose its identity at the time of the request. Accordingly, these protocols, by design, largely replicate the limitations of the voice-based, OTC market.

77. The protocol differences between the two sides of this bifurcated market (IDB: dealer-to-dealer and D2C: dealer-to-client), as they exist today, are summarized in the following chart:



78. As this chart shows, whether a buy-side investor is trading over the telephone, in an electronic message such as a Bloomberg chat, or through a dealer-to-client platform, the investor is stuck trading in a way that largely replicates the limitations of the OTC market. In the RFQ protocols available to the buy side today, IRS investors lack the real-time price transparency or competitive pricing endemic to modern markets that support all-to-all trading.

79. But, while denying the benefits of all-to-all trading to the buy side, the Dealer Defendants enjoy those benefits when trading *with each other*. When dealers want to trade or lay off risk on other dealers, they typically trade on dealer-only platforms provided by IDBs. In return for facilitating dealer-to-dealer trades, an IDB earns a commission, known as a "brokerage fee" on each consummated trade. As shown in the above chart, this separate interdealer marketplace developed more naturally to have far more competitive protocols.

80. On these IDB platforms, the dealers submit their bid and ask prices to the IDB, which anonymously publicizes the best quotes (known as the "inside market") to all other dealers

on the platform. A dealer can immediately enter into an IRS contract at a quoted price without negotiation, or it can ask the IDB to attempt to negotiate (commonly referred to as "tighten up") a better price. IDBs also make available to dealers "order book" platforms that function like exchanges by automatically matching the best bids and offers. The price transparency and immediate execution available in interdealer IRS trading yields direct price competition among dealers — a benefit they do not allow the buy side to enjoy.

81. As noted, the interdealer market is also *pre*-trade anonymous: the dealers' identities are concealed from one another until they agree to enter into a trade. It is only at the time of execution, post-trade, that counterparty identities must be revealed. As discussed below, this requirement that the identity of the trading parties be disclosed post-trade (known as "name give-up") has no legitimate purpose in a cleared environment.[15] The Dealer Defendants have insisted this be a requirement on IDB platforms so they can monitor whether the buy side is accessing the IDB platforms.

82. The existence of these IDB platforms demonstrates that IRS *can* be traded in a way that promotes direct price competition and transparency, because the dealers *are* trading IRS on those platforms in that way today and have been doing so for years. Well before 2007, hundreds of trillions of IRS, in notional value, were traded in standard types. There was no longer any need to maintain a privileged set of dealers to provide all of the liquidity in the market. The benefits that all-to-all trading could have brought to the IRS market were widely recognized by market participants, regulators, and economists. There was also tremendous demand from the buy side for competitive platforms on which they could trade IRS not only with dealers, but also with each other. Any dealer that would have acted to provide such a platform

[15] *See* Section II.F. *infra*.

would have been rewarded with considerable business and lucrative brokerage fees from the buy side.

83. Simply put, there is no natural explanation why the buy side cannot trade IRS in the same manner in which the dealers trade IRS on IDB platforms. Nor is there any natural reason for the continued dominance of the OTC regime. As Professor Darrell Duffie, widely recognized as one of the world's foremost experts on OTC financial markets, has observed: "simple interest rate swaps . . . seem like natural candidates for exchange-based trade but are normally traded over the counter. At this point, *we lack convincing theories that explain why such simple and heavily traded instruments are traded over the counter*."[16]

84. This complaint explains why the IRS market today remains stuck in an OTC-like trading model: Defendants' collusion.

C. Supporting Infrastructure for IRS Trading

85. As IRS developed into standardized and highly liquid financial products, the supporting technology and infrastructure for all-to-all trading of IRS was readily available. An example of this infrastructure is central clearing. Long before Dodd-Frank mandated in 2010 that IRS and other swaps be cleared through central clearinghouses, IRS were fully capable of being centrally cleared for both the Dealer Defendants and buy-side investors.

86. A clearinghouse is an entity designed to step in the middle of a bilateral trade to reduce counterparty risk. A clearinghouse becomes the counterparty to both buyer and seller, and turns the transaction into two separate trades: a sale from the seller to the clearinghouse, and then a sale from the clearinghouse to the buyer. An advantage of cleared trades is that every trade participant faces the same counterparty: the clearinghouse. As a result, traders do not need

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[16] *See* DARRELL DUFFIE, DARK MARKETS 6-7 (2012) (emphasis added).

to evaluate the creditworthiness of their counterparty before every deal. Central clearing also eliminates the need for contractual agreements between counterparties because they no longer face each other. Central clearing helps lay the groundwork for all-to-all anonymous trading by bringing buyers and sellers to a centralized platform, creating the infrastructure for the processing of trades, and eliminating case-by-case creditworthiness assessments.

87. Central clearing is not a new concept. Financial contracts have been cleared going back to the latter stages of the 19th century. In derivatives, clearing of exchange-traded contracts began in earnest in the early 20th century with commodity exchanges in New York and Chicago forming their own clearinghouses. Consistently, as financial markets grow in size and liquidity, contract terms tend to become more standardized, and eventually the vast majority of transactions take place in cleared all-to-all anonymous trading environments. This pattern has taken place in equities as well as commodities where the vast majority of trading volume takes place on exchanges.

88. Central clearing of buy-side IRS trades was feasible by, at the latest, the early 2000s. By 2000, for example, dealers were clearing interdealer IRS trades through an entity they effectively controlled called SwapClear, and, by the mid-2000s, Swapclear cleared the majority of interdealer trades. Because the type, size, and maturity of buy-side trades are similar to those of interdealer IRS trades, it would have been straightforward to extend central clearing to the buy side. One obvious option was to use a clearing model known as the futures commission merchant or "FCM" clearing model — which is the model that was used for many asset classes by the early 2000s and is used by the IRS market today.

89. Generally speaking, clearing works as follows: Two counterparties agree upon the terms of an IRS transaction. The first counterparty is to receive a fixed rate and pay a

floating rate while the second counterparty is to receive a floating rate and pay a fixed rate. Rather than execute an IRS transaction with each other (as in a bilateral transaction), each counterparty enters into an IRS transaction with a central clearinghouse. The first counterparty enters into an IRS with the clearinghouse where the it receives a fixed rate and pays a floating rate while the clearinghouse receives a floating rate and pays a fixed rate; and the second counterparty enters into an IRS with the clearinghouse where the second counterparty receives a floating rate and pays a fixed rate while the clearinghouse receives a fixed rate and pays a floating rate.

90. The clearinghouse is neutral as to these two transactions. The financial transfers from the first transaction are completely offset by the financial transfers from the second transaction. The counterparties, on the other hand, pay and receive the same financial transfers as if they had entered into a non-cleared bilateral IRS transaction. The two counterparties, however, do not have a direct contractual relationship, thus effectively eliminating the risk the other counterparty may default on its contractual obligations. By removing this risk, buy-side investors can trade anonymously on electronic trading platforms, without being concerned whether a counterparty will fulfill its contractual obligations.

91. While this arrangement decreases counterparty risk for the two trading parties, it does not decrease counterparty risk for the clearinghouse itself. To solve this problem, in many asset classes, FCMs serve as intermediaries between buy-side clients and the clearinghouse. The FCM establishes credit limits for its buy-side clients and posts collateral to the clearinghouse on behalf of the client, thereby assuring that all obligations of its clients will be met throughout the life of each transaction.

92. This FCM model (or other similar models) could have been readily applied to IRS by the early 2000s. The FCM clearing model has been used for decades to centrally clear a variety of complex financial instruments traded in an all-to-all environment, including futures, options, and other exchange-traded instruments. Futures and options, for example, have been exchange traded and centrally cleared for decades. Further proof that the FCM model for clearing IRS trades was feasible by the early 2000s is that it is the dominant method for clearing dealer-to-client IRS trades today. Nothing has changed from the early 2000s to the present that changed the feasibility of the FCM model for IRS.

93. Indeed, as discussed further below, sophisticated industry players with a proven track record of bringing clearing and trading solutions to a variety of financial markets, including the Chicago Mercantile Exchange ("CME"), sought to provide those solutions for the IRS market but were stopped from doing so by the Dealer Defendants.[17] No technological or infrastructure impediments prevented the opening of all-to-all IRS trading to the buy side.

II. DEFENDANTS CONSPIRE TO BLOCK COMPETITIVE TRADING OF INTEREST RATE SWAPS

94. By late 2007, the buy side was demanding all-to-all trading of IRS, IRS were fully capable of trading on modern electronic platforms with all-to-all trading protocols, and the infrastructure supporting those protocols existed. There were, therefore, no natural or technological reasons why the IRS market did not evolve by 2008, at the latest, to allow the buy side to conduct all-to-all trading of IRS on electronic trading platforms. The only reason the market did not develop in that way is because Defendants conspired to prevent it from occurring, as detailed below.

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[17] *See infra* ¶¶ 209-16.

A. <u>**The Dealer Defendants Take Control of Tradeweb to Prevent the Development of a More Competitive Trading Platform and to Use it As a Vehicle for Collusion**</u>

1. The Dealer Defendants' Strategic Investment Groups Take Control of Tradeweb's IRS Business

95. Tradeweb was founded in 1998 as a private, dealer-backed firm that provided an online marketplace for fixed-income products, such as U.S. Treasuries. Tradeweb subsequently developed a dealer-to-client RFQ platform for IRS upon which buy-side investors could (non-anonymously) request non-executable and non-binding quotes from dealers, but not from other end users. This was, in other words, an OTC platform that facilitated the dealers' roles as the sole IRS market makers. Because Tradeweb's platform relied on the dealers to make markets, its success depended on the dealers providing liquidity to the platform.

96. In 2004, the dealers sold Tradeweb to what was then Thomson Corp., counting upon Tradeweb's dependence on the dealers' liquidity to keep it under their effective control. IRS trading volumes thereafter continued to grow rapidly. With the increased demand for IRS and advances in trade documentation, IRS products quickly evolved to the point where the IRS market was poised and ready for all-to-all electronic trading.

97. Recognizing the threat this impending development posed to the Dealer Defendants' position as the primary market makers, Goldman Sachs' Principal Strategic Investments Group ("PSI") devised a "dealer consortium" strategy to work with its biggest competitors, *i.e.*, the other Dealer Defendants, to maintain control of the IRS market. The Goldman Sachs PSI group was organized principally to control how markets would evolve in

order to protect the "dealer community" from the threat of electronic exchanges and other forms of all-to-all trading that would, in the banks' own phraseology, "disintermediate" them.[18]

98. Having experienced the migration of other financial instruments away from OTC trading — and the loss of bank revenues resulting from that migration — the Goldman Sachs PSI group recognized that, if the buy side of the IRS market shifted to all-to-all platforms, buy-side entities would be able to trade directly with one another, thereby diminishing the substantial profits the Dealer Defendants derive from intermediating trades in the dealer-to-client market.[19]

99. Many of the other Dealer Defendants employ similar "strategic investment" groups that coordinate with their competitors to control market structures.[20] Bank of America's group, Global Strategic Capital, was headed by Mary Harman from in or around 2009 to 2015. Barclays employs a group known as Market Strategic Investments, which was headed by Andrew Challis.[21] Citi's strategic investments group was headed by William Hartnett until his

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[18] *See generally* Liz Moyer, *Goldman Group Takes Stakes in Market Evolution*, MARKETWATCH (Jan. 23, 2012), http://www.marketwatch.com/story/goldman-group-takes-stakes-in-market-evolution-2012-01-23 (noting that "PSI and its portfolio have rarely attracted outside scrutiny, mostly because the group's existence isn't publicized").

[19] *See, e.g.*, Adam Sussman, *US Interest Rate Swap Futures*: *Why Market Participants Would Switch*, TABB GROUP 7 (Nov. 2012), http://www.cmegroup.com/education/files/tabb-strong-prospects-for-interest-rate-swap-futures.pdf ("[T]here is little doubt in our minds that dealers want to preserve the traditional swaps market for as long as possible.").

[20] Philip Georgiadis & Tim Cave, *Strategic Investment Units Driving the Evolution of Trading*, FINANCIAL NEWS (Mar. 31, 2015), http://www.efinancialnews.com/story/2015-03-31/banks-strategic-investment-units-drive-the-evolution-of-trading ("While most bulge-bracket banks have principal strategic investment units, US investment banking giants dominate the space and Goldman Sachs, in particular, is widely viewed as one of the largest and most organised.").

[21] Luke Clancy, *Tough Times for the Real Masters of the Universe*, RISK (Sept. 26, 2016), http://www.risk.net/risk-magazine/feature/2471879/tough-times-for-the-real-masters-of-the-universe.

departure. Credit Suisse's practice is known as the Strategic Principal Investments Group and was run by Theofilos Kotridis and Alan Freudenstein during the Class Period.

100. Deutsche Bank utilizes a group called Strategic Investments, which was headed by Stephen Wolff from 2004 to 2014, when he was succeeded by Andrew Murray. JP Morgan's Strategic Investments Group, headed by Luis Valdich, "co-invest[s] with other strategic investors, including banks and market structure firms" to "gain and sustain competitive advantage by developing and executing principal strategic investments."[22] Morgan Stanley's group, also called the Strategic Principal Investments Group, was led by Gary Offner from 2005 to 2016.[23] Those Dealer Defendants without distinct market strategy groups, such as BNPP, conduct similar strategic activities through their trading businesses.

101. The Dealer Defendants are "intensely secretive" about their strategic investment groups.[24] They did not typically even disclose their existence, and they kept their operations hidden from public scrutiny.[25] When one publication attempted to research these groups in 2015, all ten banks approached refused to discuss their groups on the record.[26]

102. What little information the Dealer Defendants have allowed to trickle out about these groups is often intentionally misleading. A briefing note on Goldman Sachs's PSI group, for example, claims the group's purpose is to "make existing markets more efficient."[27] In fact,

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[22] Georgiadis, *supra* note 20.

[23] Clancy, *supra* note 21.

[24] Georgiadis, *supra* note 20.

[25] *Id.*; *see generally* Moyer, *supra* note 18.

[26] Georgiadis, *supra* note 20.

[27] *Id.*

the true purpose of the PSI group is the exact opposite — it is to preserve *inefficient* OTC market structures that place Goldman Sachs and other dealers in a privileged position.

103. Even as the Dealer Defendants kept these groups largely hidden from the *public*, however, they collaborated closely *with each other*. Group heads met regularly in private over the Class Period, in person and by telephone and using electronic communications, to discuss how to protect the banks' role as dealers and maintain an artificially bifurcated IRS market. They also collaborated closely with the respective heads of their IRS trading desks.

104. These groups secretly collaborated to protect what they called the "dealer community" or the "industry." For these groups, protecting the "dealer community" means protecting their privileged status as dealers in markets they have historically controlled. As explained by an article in the financial press, triggered in part by the scrutiny brought to these groups by this lawsuit and a prior lawsuit involving credit default swaps ("CDS"), these groups long collaborated in a manner "enabling them to influence the speed and direction of change in the markets where they made a fat slice of their revenues."[28]

105. As stated in another recent article, the result of this collaboration was that: "When change happened, it did so with the blessing of the industry."[29] That same article quotes an unnamed source from one of the banks as "ruefully" acknowledging how that collaboration restricted market growth and development: "We were too slow to change; too closed. *There was too much control*."[30]

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[28] Clancy, *supra* note 21.

[29] Duncan Wood, *Swaps Market Mutation Could Replace Managed Change*, RISK (Oct. 3, 2016), http://www.risk.net/risk-magazine/opinion/2472646/swaps-market-mutation-could-replace-managed-change.

[30] *Id.* (emphasis added).

106. Tradeweb is a prime example of the Dealer Defendants exercising too much control to prevent a market from developing naturally. By late 2007, Tradeweb was planning to introduce electronic all-to-all trading to the IRS market — a development for which there was great demand from the buy side. Tradeweb touted itself as a "real-time trading platform" and stated it was "well positioned to capture new business as the market migrates to more efficient electronic trading platforms."[31]

107. In response to this perceived threat, the Dealer Defendants resolved to regain control of Tradeweb to prevent it from introducing all-to-all trading. In late 2007, Brad Levy of Goldman Sachs, Stephen Wolff of Deutsche Bank, and Dexter Senft of Lehman Brothers (later of Barclays and Morgan Stanley), all members of their respective dealers' strategic investment groups, devised and implemented a scheme to eliminate the threat from Tradeweb.

108. Messrs. Levy, Wolff, and Senft recognized that Tradeweb's liquidity contracts with the Dealer Defendants — which Tradeweb needed in order to drive volume to its RFQ and eventually its all-to-all platform — were expiring. This provided the Dealer Defendants with leverage. According to one source, "Thomson realized the banks would take their liquidity and shop it around, which would threaten the value of TradeWeb."[32]

109. To exploit this leverage, Messrs. Levy, Wolff, and Senft recruited other Dealer Defendants to join an initiative they named "Project Fusion." Project Fusion was designed as a way for the Dealer Defendants to take control of Tradeweb's IRS business so as to eliminate Tradeweb as a threat — and to do so without attracting scrutiny.

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[31] TRADEWEB, *Thomson to Acquire TradeWeb* (Apr. 8, 2004), http://www.tradeweb.com/News/News-Releases/Thomson-to-Acquire-TradeWeb/.

[32] Ivy Schmerken, *Thomson Plans to Spin Off TradeWeb*, INFORMATIONWEEK: WALL ST. & TECH. (Oct. 10, 2007, 2:45 PM), http://www.wallstreetandtech.com/trading-technology/breaking-news-thomson-plans-to-spin-off-tradeweb/d/d-id/1258992.

2. *The Dealer Defendants and Tradeweb Hide the True Nature of the Dealer Defendants' Acquisition of Control*

110. The Dealer Defendants knew it would look bad for them to take joint *control* of Tradeweb's IRS business. Accordingly, Project Fusion included a plan for hiding the Dealer Defendants' true actions and intentions from public view. Specifically, it included a strategy to make it appear the Dealer Defendants were taking only a "minority" stake as investors in Tradeweb, while in fact they planned to take over *majority ownership* of a shadowy new company that would be the entity through which they could jointly control Tradeweb's IRS business.

111. On October 1 and 2, 2007, the Dealer Defendants and Tradeweb privately formed two Delaware LLCs within twenty-four hours. They named the first one "Tradeweb Markets LLC." This entity would be the public face of the deal and the one in which the Dealer Defendants would take a minority stake in exchange for paying $180 million to Thomson Corp., the parent of Tradeweb at the time. But on its heels, they also created a second company they named "Tradeweb NewMarkets LLC." This second entity was created for one central purpose: to give the Dealer Defendants control over IRS trading at Tradeweb. The Dealer Defendants paid Thomson Corp. approximately *$280 million* to purchase an *overwhelming majority stake* (80%) in this entity, and it was this entity that would house Tradeweb's IRS business.

112. Tradeweb *New*Markets LLC was given a name meant to be easily confused for Tradeweb Markets LLC, which together both sound like Tradeweb LLC, and all of which easily fused into the generic name "Tradeweb." The Dealer Defendants' press releases used the generic name "Tradeweb" and never acknowledged the new entity they dominated — Tradeweb NewMarkets LLC — or the fact that their control of this entity gave them control over the rulebooks and business logic of future IRS trading. The Dealer Defendants structured the

transaction in this way so they could control Tradeweb's incipient IRS trading platform *without being seen* as controlling it.

113. On October 11, 2007, Tradeweb and the Dealer Defendants issued a press release announcing that "the dealers will invest approximately $180 million to purchase a *minority* stake in TradeWeb's established markets."[33] This press release was plainly meant to convey to the financial press and others that this minority investment included Tradeweb's *interest rate swaps business*. For example, after mentioning the "minority" investment of $180 million, the press release went on to state:

> The dealers that have agreed to invest in TradeWeb are: Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Lehman Brothers, Merrill Lynch, Morgan Stanley, The Royal Bank of Scotland, and UBS. All nine firms have committed to participate in TradeWeb's markets, *including interest rate swaps,* providing a significant opportunity for institutional investors to benefit from the efficiencies of electronic trading.[34]

114. Elsewhere in the release, Lee Olesky, President of Tradeweb, emphasized *IRS trading* as the chief benefit of the Dealer Defendants' supposed minority stake: "At this stage in the evolution of the electronic markets, *especially interest rate swaps,* the partnership of leading dealers with TradeWeb's global distribution and technology, is a powerful combination."[35]

115. Nowhere did Defendants' press releases mention the existence of the newly-created entity, Tradeweb NewMarkets LLC, that would house Tradeweb's IRS business or that the Dealer Defendants were paying approximately $280 million to control 80% of that entity. At

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[33] TRADEWEB, *Nine Global Dealers and Thomson Financial Form Premier Electronic Trading Venture Using TradeWeb* (Oct. 11, 2007) (emphasis added), http://www.tradeweb.com/News/News-Releases/Nine-Global-Dealers-and-Thomson-Financial-Form-Premier-Electronic-Trading-Venture-Using-TradeWeb.

[34] *Id.* (emphasis added).

[35] *Id.* (emphasis added).

most, those crucial facts were addressed, and deliberately obscured, only by one vague sentence, which conveyed no meaningful information at all: "Separately, Thomson and the dealers will fund additional investment in asset class expansion."[36]

116. The press releases were also misleading about the *purpose* of the Dealer Defendants' investment. As noted, they claimed the Dealer Defendants were investing in Tradeweb's IRS business to provide "a significant opportunity for institutional investors to benefit from the efficiencies of electronic trading."[37] In fact, the Dealer Defendants planned to keep Tradeweb from offering an all-to-all platform that would be *more efficient* for the buy side.

117. Numerous press reports dutifully reported that the Dealer Defendants had invested $180 million to take a minority stake in Tradeweb. A *New York Times* article, for example, mentioned only the "minority" stake,[38] as did a later November 7, 2008 *Wall Street Journal* article discussing Tradeweb's *CDS* platform, which the *Journal* evidently did not know was (like IRS) housed within the new Tradeweb NewMarkets entity the Dealer Defendants now controlled.[39] Indeed, it appears that not a single press article, to the present day, has uncovered the fact that the Dealer Defendants assumed control over Tradeweb's IRS business in 2007 through their acquisition of 80% of the newly created Tradeweb NewMarkets LLC.[40]

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[36] *Id.*

[37] *Id.*

[38] *See, e.g.*, N.Y. TIMES: DEALBOOK, *Banks Take Stake in Thomson's TradeWeb,* (Oct. 11, 2007, 7:10 AM), http://dealbook.nytimes.com/2007/10/11/9-investment-banks-take-stake-in-thomsons-tradeweb/.

[39] Serena Ng, *Swaps Platform Gets a Boost*, WALL ST. J. (Nov. 7, 2008), http://www.wsj.com/articles/SB122601902407007147.

[40] It appears that the only entity that ever provided any disclosures at all about the Dealer Defendants' 80% ownership of the newly created Tradeweb NewMarkets LLC was Thomson Reuters Corp., the non-Defendant Canadian information company that is parent to several Tradeweb companies. Thomson's disclosures were buried deeply in securities filings

118. When Citi joined the Tradeweb consortium in April 2008, Tradeweb and the Dealer Defendants issued another misleading press release, reading: "Tradeweb announced today that Citi is acquiring *a minority stake in the company*, and will obtain a seat on its Board."[41] Nowhere did the release mention that the Dealer Defendants (now including Citi) owned 80% of the Tradeweb NewMarkets LLC responsible for Tradeweb's IRS business.

119. As explained more fully below, Goldman Sachs and the other Dealer Defendants originally did not allow Barclays to participate in the Tradeweb consortium because they had placed Barclays in the "penalty box" for attempting to launch a dealer-to-client IRS electronic trading platform without the other dealers permission. *See infra* note 116. When Barclays' "penalty" expired, and the Dealer Defendants allowed it to become an investor in Tradeweb in 2009, the Dealer Defendants again issued a press release stating Barclays had joined the other dealers in taking "a *minority* equity stake" in its business, again neglecting to mention the Dealer Defendants' overwhelming *majority* stake in Tradeweb NewMarkets LLC.[42]

120. As part of Project Fusion, the Dealer Defendants (*i.e.*, Bank of America, Barclays, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JP Morgan, Morgan Stanley, RBS, and UBS) agreed with each other that Tradeweb would not move forward with an all-to-all IRS

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required of Canadian private issuers of stock registered in the U.S. Neither Plaintiffs nor any other buy-side customer would have had any reason, by virtue of their status as swaps purchasers, to review Thomson Reuters Corp.'s securities filings to understand the swaps market. Moreover, these minimal disclosures did *not* disclose that the Dealer Defendants took a majority interest in the entity that controlled Tradeweb's IRS business.

[41] TRADEWEB, *Citi Takes Equity Stake in Tradeweb* (Apr. 8, 2008) (emphasis added), http://www.trade web.com/News/News-Releases/Citi-Takes-Equity-Stake-in-Tradeweb/. Bank of America also became an investor in 2008, after it acquired Merrill Lynch.

[42] TRADEWEB, *Barclays Capital Takes Equity Stake in Tradeweb* (Sept. 10, 2009) (emphasis added), http://www.tradeweb.com/news/news-releases/barclays-capital-takes-equity-stake-in-tradeweb/.

trading platform and that they would not support other trading platforms that threatened to move the market toward all-to-all trading. They also agreed with each other that each Dealer Defendant would provide liquidity to Tradeweb's platforms to the exclusion of competing platforms.

3. *The Dealer Defendants Install Themselves on Tradeweb's Boards and Committees and Use Their Positions to Further the Conspiracy*

121. The Dealer Defendants installed their senior personnel, including those principally responsible for the conspiracy alleged herein, on the boards of Tradeweb Markets and Tradeweb NewMarkets. They took sixteen of the twenty-six seats on the Tradeweb Markets Board of Directors and sixteen of the twenty-four seats on the Tradeweb NewMarkets Board of Directors. They also installed key personnel on the governance committees of both entities, so they could control Tradeweb's IRS business strategy and use the entities to collude.

122. The Dealer Defendants installed one of the chief architects of their consortium strategy, Vic Simone, a Managing Director at Goldman Sachs and then-Global Head of its PSI Group, as Chairman of the Board of Directors of Tradeweb Markets.[43] And they selected Lee Olesky, the former Chief Operating Officer for Fixed Income at Credit Suisse, to serve as CEO of both entities.

123. Bank of America installed Shea Wallon, a Managing Director in the bank's Global Strategic Capital Initiatives group, on the boards of both Tradeweb Markets and Tradeweb NewMarkets. Other Bank of America personnel on the Tradeweb NewMarkets Board of Directors included Luke Halestrap, the Head of Emerging Markets Interest Rates.

[43] *See* TRADEWEB, *Tradeweb Appoints New CEO* (Sept. 9, 2008), http://www.tradeweb.com/News/News-Releases/Tradeweb-Appoints-New-CEO/.

124. Barclays personnel on the Tradeweb Markets Board of Directors included Dexter Senft, another chief architect of the conspiracy who subsequently headed Morgan Stanley's Fixed Income E-Commerce division, and Andrew Challis, the Head of eFICC Distribution and Market Strategic Investments. Barclays personnel on the Tradeweb NewMarkets Board of Directors included Christopher Mosher.

125. Citi installed Sandeep Arora, the Chief Operating Officer, and Nicholas Brophy, the Head of Rates Trading in the Americas, on the boards of both Tradeweb Markets and Tradeweb NewMarkets.[44]

126. Credit Suisse installed Sean Flynn, the Global Head of Investment Banking Strategy, and Timothy Blake, the Head of Interest Rates Trading in the United States, on the boards of both Tradeweb Markets and Tradeweb NewMarkets.

127. Deutsche Bank filled seats on the boards of Tradeweb Markets and Tradeweb NewMarkets with Michele Faissola, the Head of Global Rates, and Stephen Wolff, the Head of Strategic Investments and Head of Fixed Income E-Commerce.

128. In addition to installing Vic Simone as Chairman, Goldman Sachs placed Brad Levy, another chief architect of the conspiracy alleged herein, as a board member of both Tradeweb Markets and Tradeweb NewMarkets. In 2011, Mr. Levy took over as Global Head of Goldman Sachs' PSI group and, at the same time, took over as the Chairman of the Board of Directors of Tradeweb Markets. Goldman Sachs also installed Colin Corgan, a partner on its Rates Desk, on the boards of both Tradeweb Markets and Tradeweb NewMarkets.

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[44] The fact that Citi and several other of the Dealer Defendants installed the *same person*, who was often the head of the bank's IRS trading unit, on *both* Tradeweb boards further demonstrates that the Dealer Defendants' creation of two supposedly separate companies was a sham effort to hide the true nature of the transaction.

129. JP Morgan installed Simon Maisey on the Tradeweb Markets Board of Directors (he later joined Tradeweb as a Managing Director in 2014), and Christopher Paul Willcox, the Global Head of Rates Trading and the Head of Global Rates Strategic Investments, on the Tradeweb NewMarkets Board of Directors. In addition, Kemal Askar, JP Morgan's Head of Rates Trading in the United States, served on the boards of both Tradeweb Markets and Tradeweb NewMarkets.

130. When Dexter Senft joined Morgan Stanley as the Global Head of Fixed Income E-Commerce, Morgan Stanley installed him on the Tradeweb Markets Board of Directors. Morgan Stanley also installed David Moore, the Head of Global Rates, on the Tradeweb NewMarkets Board of Directors.

131. RBS placed Richard Volpe, the Global Head of Dollar Interest Rates, on the Tradeweb Markets Board of Directors, and Michelle Neal, the Global Head of Electronic Markets and co-head of FICC Prime Services, on the Tradeweb NewMarkets Board of Directors.

132. UBS personnel on the Tradeweb Markets Board of Directors included Joan Lavis, Global Head of Strategic Investments, and Paolo Croce, Head of European Rates. UBS placed Stuart Taylor, the Head Global eBusiness in Fixed Income, on the Tradeweb NewMarkets Board of Directors.

133. As noted, these board members include some of the primary architects of the conspiracy. These personnel met regularly under the cover of Tradeweb's boards and committees to plan how the Dealer Defendants could maintain control of the IRS market and make sure they were not "disintermediated" by buy-side friendly IRS trading platforms.

134. In addition to conference calls, which often took place weekly, the Board met annually in person in Miami, Florida. The Dealer Defendants used these calls and meetings to

discuss and coordinate their strategy for controlling the IRS market and to further their conspiracy.

135. The Dealer Defendants also control Tradeweb through its governance committees. Some examples of Tradeweb's governance committees are the "participation committees" that determine who can participate on Tradeweb's SEFs.[45] Acting through these committees, the Dealer Defendants agreed how to coordinate their conduct to ensure any threat to their collective dominance of the IRS market would not succeed. Tradeweb kept the existence of these committees and the identities of their members largely hidden from the public.

136. The Dealer Defendants' personnel also regularly discussed market structure issues outside of board or committee meetings. Chris D'Annibale, the Head of Interest Rate Swaps for Tradeweb's interdealer SEF, Dealerweb, hosted dinners during the Class Period at his home in Long Island and at restaurants in New York City that were attended by representatives of the Dealer Defendants. The Dealer Defendants used these meetings to coordinate their strategies for the IRS market. They discussed their plans for keeping the market bifurcated and preventing the natural progression to all-to-all trading.

137. In November 2010, Tradeweb NewMarkets LLC merged into Tradeweb Markets LLC, leaving Tradeweb Markets LLC as the surviving company. The Dealer Defendants continue to hold a controlling majority of seats on the Board of Directors of Tradeweb Markets LLC since the merger, giving them continuing control over Tradeweb Markets LLC.

[45] *See* TRADEWEB, *DW SEF LLC: SEF Participation Committee Charter*, http://www.tradeweb.com/uploadedFiles/Tradeweb/Content/About_Us/Regulation/DW%20SEF%20Participation%20Committee%20Charter.pdf (last visited Dec. 9, 2016); TRADEWEB, *TW SEF LLC: SEF Participation Committee Charter*, TRADEWEB, http://www.tradeweb.com/uploadedFiles/Tradeweb/Content/About_Us/Regulation/TW%20SEF%20Participation%20Committee%20Charter.pdf (last visited Dec. 9, 2016).

4. *The Dealer Defendants Controlled Tradeweb*

138. Tradeweb held itself out as an independent company, pursuing its own objectives in the market. In reality, however, Tradeweb has acted for the benefit of the Dealer Defendants since Project Fusion and became a "[redacted]" against the "[redacted]"[46] Billy Hult, Tradeweb's president, implicitly acknowledged as much, stating in June 2016: "We've had a long ownership relationship with many of the largest banks and the challenge for us *now* [*i.e.*, nearly nine years after the transaction] is to make that ownership work for us."[47]

139. As Mr. Hult's statement suggests, the Dealer Defendants' ownership of Tradeweb did not work in Tradeweb's interests. Rather, the Dealer Defendants' control of Tradeweb's board gave them the ability to stifle Tradeweb's launch of new products, [redacted][48] This included decisions regarding the pricing of Tradeweb's products, including the [redacted]— that Tradeweb used on its platforms.[49]

140. The dealers "[redacted]" [redacted] because they were concerned that giving buy-side firms access to Dealerweb would accelerate the shift to an all-to-all anonymous trading model in the IRS market. A 2013 Bloomberg chat from [redacted] ([redacted]) to [redacted] (Morgan Stanley) explained that Dealerweb had "[redacted]

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[46] JPMC-IRS-00020151, at '153.

[47] Robert Mackenzie Smith, *Interdealer Brokers Embrace Buy Side as Bank Dominance Slips*, RISK (June 9, 2016), http://www.risk.net/risk-magazine/news/2460945/interdealer-brokers-embrace-buy-side-as-bank-dominance-slips.

[48] MS-IRS00000813, at '814.

[49] *See, e.g.*, GS-IRS-MDL00038100 (stating that a "minimum tick size [of] ¼ of a basis point" was a "topic[] dealers generally agree on," as was a "[r]ecommended bid/offer spread [of] 1/2 a basis point") (emphasis added).

[redacted]" [50] That is, rather than pursuing new trading protocols such as sponsored access to widen its customer base, Dealerweb was "[redacted]"

141. Some communications were, if anything, even more explicit. In another 2013 conversation held via Bloomberg chat, [redacted] ([redacted]) and [redacted] (Morgan Stanley) had the following exchange: [51]

[redacted]

142. This exchange makes clear that the Dealer Defendants used Dealerweb to promote their [redacted] which was "[redacted]" and to "[redacted]" It also shows that the Dealer Defendants, in unguarded moments, bluntly expressed their own concerns about whether what they were doing was "[redacted]."

143. In order to ease concerns about Dealerweb, Tradeweb's board went to great lengths to assure the Dealer Defendants that Tradeweb and Dealerweb would remain separate. Although Tradeweb had developed a [redacted], it planned to limit [redacted] Indeed, Tradeweb explained that even "[redacted]

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50 MS-IRS00974599, at '600 (emphasis added).

51 MS-IRS00748436 (emphasis added).

[redacted]" Tradeweb would not [redacted], but would *still* force them to trade with the dealers through an elaborate workaround.[52]

144. Tradeweb explained that it would accomplish this by having "[redacted]" [redacted] platform.[53] "[redacted]" would then be "[redacted]"[54] In the event that Tradeweb was forced to [redacted], its plan was to [redacted], ensuring that [redacted] with the Dealer Defendants ([redacted]). Tradeweb's determined efforts to "[redacted]" show that it was not acting as a rational economic actor, but rather as a utility following orders from the Dealer Defendants. There is no other reason why Tradeweb would not have offered its buy-side customers [redacted], since it had already [redacted]

145. The Dealer Defendants sometimes candidly acknowledged the deleterious effects of their control over Tradeweb. In May 2012, [redacted] (Goldman Sachs) admitted that [redacted][55] which, [redacted] complained in a later email, "[redacted]"[56] [redacted]

[52] JPMC-IRS-00074035, at '075.

[53] JPMC-IRS-00074035, at '076.

[54] JPMC-IRS-00074035, at '077 (emphasis in original).

[55] GS-IRS-MDL00090608.

[56] GS-IRS-MDL00419374, at '375.

even wondered whether it was worth [redacted][57]

146. This never came to pass, and in October 2012, [redacted] noted that "[redacted]" and that "[redacted]"[58] Indeed, Tradeweb became so complacent that [redacted], Goldman Sachs' [redacted], joked in 2013 that "[redacted]" to pursue a new product, "[redacted]"[59] These documents show that Defendants were fully aware that they were forcing Tradeweb to act against its own interests, but did so anyway to preserve their supracompetitive profits.

147. Thomson Reuters, the Dealer Defendants' partner in Tradeweb, was not able to provide a meaningful check on the Dealer Defendants. In fact, on March 14, 2012, [redacted]. Under [redacted], the Board, which was controlled by the Dealer Defendants, would "[redacted]"[60]

148. The Dealer Defendants publicly touted Tradeweb as a modern, efficient trading platform that could provide "accurate pricing information" and "greater market transparency."[61] But these claims were a sham to provide cover for their conspiratorial objectives. Pursuant to its

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57 GS-IRS-MDL00090608 (emphasis added).

58 GS-IRS-MDL00238900, at '901.

59 GS-IRS-MDL00088538, at '543-'544.

60 RBS-IRSMDL-00025348, at '382.

61 TRADEWEB, *supra* note 33.

agreement with the Dealer Defendants, Tradeweb merely put a new sheen on the dealer-to-client OTC market structure — the buy side can trade on Tradeweb *only* via its dealer-to-client RFQ platform and cannot engage in all-to-all trading.

149. Absent a conspiracy, it would not have been in Tradeweb's independent interest to impose these restrictions. If Tradeweb had gone ahead with its plans to make available an efficient, all-to-all trading platform to all market participants, it would have enjoyed additional business and would have profited from the additional fees it would have earned.

150. But the Dealer Defendants prevented this from happening. Pursuant to its agreement with the Dealer Defendants, Tradeweb continues to play an active role in maintaining a two-tiered market structure. Tradeweb currently operates two different SEFs: Dealerweb SEF, which is "designed exclusively for dealers" and allows anonymous, competitive trading, and Tradeweb SEF, which "is designed for non-dealer market participants and always discloses counterparty identities."[62] As Jon Williams, former Managing Director and Head of U.S. Institutional Market Operations at Tradeweb, acknowledged during a recent panel discussion at SEFCON: "we don't have buy-side participants" on Dealerweb.

151. To trade on Dealerweb, Tradeweb charges $50,000 per month — and requires that an entity pay for a minimum of a full year ($600,000). But it only charges about $100 per month to trade on Tradeweb SEF. It is "challenging to find a legitimate rationale for this enormous cost differential between these two platforms operated by the same company."[63] The real reason for this cost structure — which was instituted by the Dealer Defendants — is to "effectively

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[62] Dennis Kelleher, Caitlin Kline & Victoria Daka, *Stopping Wall Street's Derivatives Dealers Club*, BETTER MARKETS 12 (Feb. 2016), https://www.bettermarkets.com/sites/default/files/Better%20Markets%20Policy%20Brief%20-%20Stopping%20Wall%20Street%E2%80%99s%20Derivatives%20Dealers%20Club.pdf.

[63] Kelleher, *supra* note 62, at 12.

establish[] and entrench[] a bifurcated dealer-to-dealer and dealer-to-customer marketplace" in furtherance of Defendants' conspiracy.[64] This is exactly what Goldman Sachs envisioned in 2013 when proposing "[redacted]" as a way to [redacted][65] That is confirmed by the fact that Dealerweb has a relatively low market share — if Dealerweb were acting in its own interests, it would lower the cost of trading on its platform in order to increase its customer base.

152. In fact, while Tradeweb's SEF ostensibly offers an "order book" today, it is effectively closed off to the buy side. The Dealer Defendants do not trade on the platform. They trade with each other on Dealerweb (or other IDBs) and limit trades with end users to the dealer-to-client RFQ. The Dealer Defendants also prohibit their clients from using the order book by punishing those who try to do so (as described below). As a result, this platform is inactive and seen by the buy side as inaccessible. Indeed, Tradeweb is still RFQ only and does not operate a CLOB.[66]

153. While Tradeweb could offer an all-to-all RFQ platform, it has limited its RFQ to facilitate dealer-to-client or dealer-to-dealer trading by allowing only dealers to respond to the quote requests submitted to the platform. Again, this is the result of the Dealer Defendants' control of Tradeweb. It would not have otherwise been in Tradeweb's self-interest to impose that limitation.

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[64] *Id.* at 12-13.

[65] GS-IRS-MDL00035950, at '954 (emphasis in original).

[66] As discussed, Dealerweb is the only Tradeweb platform that offers an order book, and it features post-trade name give-up and is effectively limited to the dealers.

B. The Dealer Defendants Prevent Anonymous All-to-All Trading on Bloomberg

154. With its terminals on virtually every Wall Street trading desk,[67] Bloomberg has long been in a unique position to offer efficient IRS trading to the buy side. Bloomberg has capitalized on this opportunity, rising to become a major venue in the dealer-to-client (D2C) segment of IRS as measured by market share. But this market share is contingent on Bloomberg not disrupting the fundamental arrangements by which the Dealer Defendants maintain their control over the IRS market. Bloomberg has never been permitted to disturb the dealer-controlled OTC market structure in IRS. Because Bloomberg is not an IRS dealer itself, it is dependent on the dominant market makers in IRS — the Dealer Defendants — to provide liquidity for Bloomberg terminal subscribers. Whenever Bloomberg has tried to evolve IRS market structure to improve price transparency and competition, the Dealer Defendants have responded with a coordinated effort to ensure that the market fundamentals do not change. Put differently, the Dealer Defendants' strategy was collectively to support Tradeweb, rather than Bloomberg, [redacted] in order to preserve the existing IRS market structure. This strategy was so effective that by 2013, Morgan Stanley's [redacted] wondered if Morgan Stanley should [redacted][68]

155. In response to "[redacted]" as well as "[redacted]

[67] GS-IRS-MDL00087433, at '442.

[68] MS-IRS00464820 (emphasis added).

[redacted]" new entrants, such as the SEFs, Bloomberg decided to "[redacted]"[69] The new offering was called BSEF and it included an anonymous all-to-all order book called "Truly Firm," which featured executable pricing and no "last look" for the Dealer Defendants. Aware that "Truly Firm" executable pricing threatened their control the Dealer Defendants had [redacted][70]

156. Bloomberg received approval for BSEF from the CFTC on July 31, 2013, and it opened for trading October 2, 2013. BSEF was built upon the existing trading infrastructure of ALLQ, with the addition of an order book, as mandated by Dodd-Frank. Bloomberg also added the ability for any market participant to submit RFQs to any other market participant. BSEF achieved this by disabling a requirement for "client enablement" by the Dealers before allowing buy-side participants to trade. Without control over client enablement, the Dealer Defendants could not control who could use the RFQ protocol to discover prices and execute trades. Goldman Sachs aptly summarized the implications of BSEF: without Dealer-controlled client enablement, BSEF [redacted][71] [redacted] of JP Morgan reacted by saying: "[redacted]"[72] Calling Bloomberg's BSEF a "[redacted]"[73] the Dealer Defendants applied a coordinated response.

157. Today, the Dealer Defendants respond to requests for quotes on BSEF's RFQ platform, but only because they are able to do so on a name-disclosed basis. Although Bloomberg continues to offer a CLOB on BSEF, there is no volume on it because the Dealer

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[69] JPMC-IRS-000091499.

[70] BB-IRS0037372.

[71] GS-IRS-MDL00008955, at '956.

[72] JPMC-IRS-000091499.

[73] GS-IRS-MDL00087433, at '442.

Defendants refuse to provide liquidity. A September 29, 2013 email from Goldman Sachs' [redacted] outlined the dealers' strategy: "[redacted]"[74] The strategy worked. As a Morgan Stanley document explained, "[redacted]" because like Morgan Stanley "[redacted]"[75] The dealers' refusal to trade on BSEF's CLOB works, in short, because "[redacted]."[76] As a result of these tactics against Bloomberg's IRS trading platforms, the Dealer Defendants have succeeded in preventing Bloomberg from offering a meaningful all-to-all anonymous trading platform and have forced buy-side customers to trade IRS on Bloomberg via a non-anonymous RFQ protocol.

C. **<u>Dealer Defendants Take Control of Tradition's SEF to Prevent Competition, Restrict Output, and Preserve a Bifurcated IRS Market</u>**

158. The Dealer Defendants also took control of the SEF established by Tradition, an IDB, to prevent it from supporting all-to-all anonymous trading. The Dealer Defendants entered into a joint agreement with Tradition, codified in a contract captioned the "[redacted]" That agreement ceded governance of Tradition's SEF to a "[redacted]" controlled by its "[redacted]": Bank of America, BNPP, Citi, Credit Suisse, Goldman Sachs, HSBC, Morgan Stanley, Société Générale, RBS, and UBS. As [redacted]'s [redacted]

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74 GS-IRS-MDL00446820, at '821 (emphasis added).

75 MS-IRS00800371 (emphasis added). *See also, e.g.,* JPMC-IRS-00478437 (Bloomberg's "[redacted]"); CITI-IRSMDL-00526914 ([redacted]"); JPMC-IRS-00606148, at p. 13 ([redacted]); JPMC-IRS-00318538 ("[redacted]).

76 CITI-IRSMDL-00424722.

[redacted] put it on September 3, 2013: "[redacted]"[77]

1. *The Dealer Defendants Use Their Control to Frustrate All-To-All Anonymous Trading*

159. A description of TradSEF said it would have "[redacted]"[78] At the same time, it would only be "[redacted]"[79] The [redacted] were the dealers. "[redacted]."[80] In November 2012, the [redacted] decided that the platform, known as "Trad-X," would be launched on February 15, 2013, "[redacted]."[81] The [redacted] discussed whether "[redacted]"[82]

160. The [redacted] also controlled clearing for Trad-X and enforced exclusion of the buy side through [redacted] determinations of "[redacted]" as well as by outright prohibitions on occasions when the subject was raised. At a [redacted] meeting on June 28, 2013, for example, an attendee asked, "[redacted]" The answer was an emphatic no. Clients would remain "[redacted]"[83]

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77 CITI-IRSMDL-00016685, at '686 (emphasis added).

78 MS-IRS00533116, at '019.

79 MS-IRS00533116, at '019 (emphasis added).

80 MS-IRS00533116, at '019.

81 UBSIRS479818.

82 BOA_IRS-MDL_000278969.

83 BNPP-IRSMDL-00245523, at '524.

161. The Dealer Defendants also prevented all-to-all trading for the buy side through other measures. They required that any new participant be required to have a [redacted] This requirement was confirmed on an August 2013 call on which it was agreed that "[redacted]"[84] Not only would a potential buy-side participant need [redacted] in order to trade with each [redacted], they would need [redacted]— subverting all-to-all trading and rendering buy-side participation impractical. Subsequent press reports revealed that Dealer Defendants repeated this tactic across IRS platforms they controlled, such as Tradeweb.[85]

162. Were it not for the Dealer Defendants' cartel, which forces Tradition to operate as a captive instrumentality of the Dealer Defendants, it would act in its own economic interest to maximize profits. For platforms like Trad-X that make money on trading and market data fees, revenue is generally increased by adding more participants to the platform. Indeed, Tradition knew that buy-side investors wanted to be able to trade in an all-to-all anonymous environment on Trad-X. As [redacted] reported to his colleagues in 2015 following a presentation by [redacted], where [redacted]'s representative said that it "[redacted]," [redacted]; [redacted]; [redacted]; and [redacted]

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[84] CITI-IRSMDL-00267324, at '325.

[85] *See, e.g.*, Peter Madigan, *Sef execution agreement requirement angers buy side,* RISK (Sept. 24, 2013), https://www.risk.net/infrastructure/trading-platforms/2296064/sef-execution-agreement-requirement-angers-buy-side.

[redacted][86] Newly discovered documents show that eventually Tradition did try to introduce anonymous all-to-all trading for buy-side participants on Trad-X, but was again prevented from doing so by the Dealer Defendants.

163. In March 2014 [redacted] and [redacted] of [redacted] discussed their meetings with buy-side firms such as [redacted], [redacted], [redacted], and [redacted].[87] In a confidential email, [redacted] asked [redacted] to confirm "[redacted]"[88] [redacted] replied that Tradition's strategy was "[redacted]"[89]

164. The barrier, however, was the Dealer Defendants' continued insistence and enforcement of post-trade name give-up, which undermined anonymity and made all-to-all trading unattractive to the buy side. Name give-up was the frequent subject of buy-side complaints — as [redacted] reported, "[redacted]"[90] [redacted] wrote that the "[redacted]" and [redacted] agreed, "[redacted]"[91]

165. Firms such as Tradition and Markit, another firm instrumental to dealer control of name give-up, were straining to maintain the name give-up that the Dealer Defendants demanded, even though it seemed increasingly questionable under Dodd-Frank. [redacted] added that "[redacted]."[92] [redacted]

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86 TradSEF-PLTFFS-Sub000356.

87 TradSEF-PLTFFS-Sub000331, at '332-'334.

88 TradSEF-PLTFFS-Sub000331, at '332.

89 TradSEF-PLTFFS-Sub000331, at '332 (emphasis added).

90 TradSEF-PLTFFS-Sub000331.

91 TradSEF-PLTFFS-Sub000331.

92 TradSEF-PLTFFS-Sub000331.

wondered whether Tradition should engage a law firm, such as [redacted], to try to get some relief. [redacted] replied that [redacted][93] for one overarching reason: [redacted] [redacted] said that unfortunately they would [redacted][94]

166. In November 2014 Tradition employees announced internally that they developed a [redacted] "[redacted]"[95] Tradition's [redacted] explained that what the "[redacted]" functionality did was "[redacted]"[96] [redacted] added, however, "[redacted]" by Tradition management.[97] [redacted] would not enable it in "[redacted]" until senior personnel at Tradition gave their approval to "[redacted]"[98]

167. The "[redacted]" at issue were of course those of the Dealer Defendants. Trad-X [redacted] signaled that Tradition needed to stand down — no anonymous trading for now — writing that [redacted][99] The reason was

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93 TradSEF-PLTFFS-Sub000331.

94 TradSEF-PLTFFS-Sub000331 (emphasis added).

95 TradSEF-PLTFFS-Sub000352, at '354.

96 TradSEF-PLTFFS-Sub000352, at '354.

97 TradSEF-PLTFFS-Sub000352, at '354-'355.

98 TradSEF-PLTFFS-Sub000352, at '354.

99 TradSEF-PLTFFS-Sub000352, at '354.

that platforms like Trad-X "[redacted]."[100]

168. [redacted] ended the matter by stating "[redacted]"[101] In a March 3, 2015 email to the Dealer Defendant "[redacted]" [redacted] reported that there was "[redacted]"[102]

169. While forced to keep in abeyance the anonymous trading capability that would otherwise benefit its revenues, Tradition nonetheless had to defend as long as possible the Dealers' interest in maintaining name give-up. An August 8, 2015 article in the *International Financing Review* reported that "inter-dealer brokers have long been perceived as providing an advantage to dealers by way of protocols that reduce transparency and allow banks to operate in secrecy."[103] The reporter who wrote the article contacted Tradition's [redacted] for comment, writing in an email exchange that "[redacted]," one of several ways "[redacted]"[104] Tradition's [redacted] wrote back with irritation, "[redacted]

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[100] TradSEF-PLTFFS-Sub000352, at '354.

[101] TradSEF-PLTFFS-Sub000352.

[102] CITI-IRSMDL-00015081, at '083.

[103] Mike Kentz, *Swap auctions gain CFTC favour,* INT'L FINANCING REV. 2095 (Aug. 8 to Aug. 14, 2015), http://www.ifre.com/swap-auctions-gain-cftc-favour/21211197.article.

[104] TradSEF-PLTFFS-Sub000469, at '470.

[redacted]."[105]

170. The Dealer Defendants knew they could rely on Tradition to serve their interests over Trad-X's own, unlike other SEFs that were not under their control. A confidential UBS email in 2015 conceded that SEFs like trueEX were "[redacted]."[106] By insisting that Tradition employ name give-up for its CLOB, the Dealer Defendants were able to prevent Tradition from offering all-to-all anonymous trading.

171. Tradition's employees continue to express discomfort about the role of keeping the buy side off, as well as apprehension about how long it could be sustained. An email between Tradition's [redacted] and [redacted] worried about what would happen as other platforms like [redacted] begin to "[redacted]":

> "[redacted]"[107]

172. [redacted] continued, describing how the *quid pro quo* between Tradition and the banks could be threatened if the Dealer Defendants did not compensate Tradition adequately for holding the dam against the buy side:

> [redacted]

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105 TradSEF-PLTFFS-Sub000469, at '470 (capitals in original).

106 UBSIRS0042395.

107 TradSEF-PLTFFS-Sub011712.

[redacted][108]

D. The Dealer Defendants Utilize Other Forums to Collude

173. While Tradeweb has been the principal forum through which the Dealer Defendants have colluded to coordinate their efforts to control the IRS market, they use other forums for this purpose as well. One of these is ISDA. ISDA is nominally an industry trade association, but in reality, during the Class Period, it served the interests of the Dealer Defendants.

174. From 2008 to the present, the Dealer Defendants controlled ISDA's Board of Directors and used those roles to discuss the IRS market and further their conspiracy. The following employees of the Dealer Defendants held positions on the ISDA Board of Directors during the relevant period, and used ISDA to ensure that they all remain on the same page regarding their collective boycott of all-to-all electronic platforms for IRS trading: Stephen O'Connor (Morgan Stanley: Chairman), Ciaran O'Flynn (Morgan Stanley: Director), Keith Bailey (Barclays: Secretary), Diane Genova (JP Morgan: Treasurer), Biswarup Chatterjee (Citigroup: Director), Kieran Higgins (RBS: Director), Thibaut de Roux (HSBC: Director), Elie El Hayek (HSBC: Director), Christopher Murphy (UBS: Director), Will Roberts (Bank of America: Director), and Eraj Shirvani (Credit Suisse: Director).

175. The Dealer Defendants also met and colluded under the auspices of meetings of the Board of Directors of the Futures Industry Association ("FIA"), or as part of various FIA "working groups." The following employees of the Dealer Defendants held positions on the Board of Directors of FIA America (FIA's American division) during the relevant period: M.

[108] TradSEF-PLTFFS-Sub011712.

Clark Hutchison (Deutsche Bank), Emily Portney (JP Morgan), Michael Dawley (head of Goldman Sachs' FCM), Malcolm Clark Hutchison (Morgan Stanley), Jeffrey Jennings (Credit Suisse), Raymond Kahn (head of Barclays' FCM), Jerome Kemp (Citi), Najib Lamhaouar (HSBC), Edward Pia (UBS), and George Simonetti (Merrill Lynch, Pierce, Fenner & Smith).

176. ISDA and FIA often coordinate to create "working groups" that provide additional forums for collusion. One such working group was devoted to the drafting of the "Cleared Derivatives Execution Agreement" ("CDEA") — a standard form contract intended to govern the relationship between clearing agents and their customers. The "CDEA Drafting Committee" was chaired by Maria Chiodi, a Director and In-House Counsel at Credit Suisse.

177. The CDEA Drafting Committee held numerous meetings throughout 2010 and 2011. One such meeting was held on April 8, 2011 at the offices of Credit Suisse in New York City. James Cawley, then Javelin's CEO, and Suellen Galish, Javelin's General Counsel, learned of the meeting in advance, and requested an invitation because they were concerned that the CDEA Drafting Committee was being used to prevent or limit trading on all-to-all anonymous trading platforms.

178. At the meeting, Ms. Galish asked how the CDEA — which appeared to have been drafted solely for OTC transactions and did not seem to cover IRS trades executed on a SEF — would work for trades executed on a SEF. Athanassios Diplas, then a Managing Director at Deutsche Bank and Co-Chair of ISDA's Industry Governance Committee, immediately demanded to know Ms. Galish's name and for whom she worked. He then refused to answer her question.

179. After the meeting, Ms. Chiodi emailed Mr. Cawley and told him it would be inappropriate for any representatives of SEFs to attend future CDEA Drafting Committee

meetings. The CDEA prevented Javelin from attending any further meetings of the Drafting Committee. Thus, although drafting of the CDEA documentation was meant to be open to the industry, SEFs offering all-to-all trading to the buy side, including Javelin, were excluded, while SEFs that complied with the Dealer Defendants, such as Tradeweb and ICAP, were allowed to be involved in the process.

180. The heads of the Dealer Defendants' IRS trading desks also maintained an ongoing dialogue directly with each other about their preferred structure of the IRS market during the Class Period. These "heads of rates" regularly communicated with each other during the Class Period through email and Bloomberg messages, at lunches, dinners, industry conferences, and other events. In these discussions, they discussed their mutual desire to maintain the status quo and to prevent the buy side from disintermediating the dealers.[109]

E. <u>The Dealer Defendants Prevent Interdealer Brokers From Opening All-to-All Platforms to the Buy Side</u>

1. <u>*The Dealer Defendants Punish Any IDBs that Take Steps Toward Allowing Buy-Side Trading*</u>

181. By 2007, a number of IDBs were also well-positioned to allow buy-side entities to trade on all-to-all IRS trading platforms. Many IDBs already operated such platforms exclusively for dealers in the interdealer market, and there was no technological impediment to

[109] As noted, many of these trading desk heads were also installed on Tradeweb boards, including the following: Luke Halestrap (Head of Emerging Markets Interest Rates for Bank of America), Nicholas Brophy (Head of Rates Trading in the Americas for Citi), Timothy Blake (Head of Interest Rates Trading in the United States for Credit Suisse), Michele Faissola (Head of Global Rates for Deutsche Bank), Stephen Wolff (Head of Strategic Investments and Head of Fixed Income E-Commerce for Deutsche Bank), Simon Maisey (Head of Global Rates, E-Commerce, and Market Structure for JP Morgan), Christopher Paul Willcox (Global Head of Rates Trading and Global Rates Strategic Investments for JP Morgan), Kemal Askar (Head of Rates Trading in the United States for JP Morgan), David Moore (Head of Global Rates for Morgan Stanley), Richard Volpe (Global Head of Dollar Interest Rates for RBS), and Paolo Croce (Head of European Rates for UBS).

opening them to buy-side entities. Since IDBs earned brokerage fees on each trade on their platforms, they had strong financial incentives to open their platforms to buy-side firms in order to expand their customer base. And there was great demand for these developments from the buy side. The Dealer Defendants, however, conspired to eliminate that threat as well.

182. The Dealer Defendants agreed to punish any IDBs that dared to consider opening their platforms to the buy side. In furtherance of this agreement, the Dealer Defendants "threaten[ed] to withdraw liquidity from any trading platform that admits buy-side firms onto its [order book]."[110] As noted above, the Dealer Defendants refer to this practice as placing the IDB in the "penalty box" or "pulling the line" on the IDB.

183. GFI Group ("GFI") operates leading IDB platforms. On at least two occasions, GFI attempted to implement anonymous trading protocols on its platform, with both immediately shut down by the Dealer Defendants. In 2009, "GFI Group said it would allow anonymous trading,"[111] a step the Dealer Defendants saw as the first step toward allowing buy-side investors to trade on its platform. To prevent a shift to anonymity, the Dealer Defendants responded in unison with threats to pull their business off the platform.[112] GFI promptly reversed course.[113]

184. In 2014, GFI made a second attempt to bring an anonymous trading platform to market. Shortly thereafter, GFI "received heated phone calls from executives at Credit Suisse

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110 Peter Madigan, *Massad: Sefs Fear Retaliation if They End Name Give-Up*, RISK (Apr. 23, 2015), http://www.risk.net/risk-magazine/news/2405534/massad-end-users-shut-out-from-sefs-due-to-post-trade-name-give-up.

111 Levinson, *supra* note 7.

112 *Id.*; *see* Kim Hunter, *Growing Pains*, MARKIT 34 (Winter 2014), http://content.markitcdn.com/corporate/Company/Files/MagazineEntireIssue?CMSID=1277525de02549adbf7b422b9b34f641 ("The first [IDB] that goes anonymous is sending a signal that the buyside is becoming part of its platform. You'll get wider spreads or even dealers withdrawing from that platform.").

113 Levinson, *supra* note 7.

Group AG and J.P. Morgan Chase."[114] In response to those calls, GFI switched trading to a name-disclosed basis, disappointing buy-side entities that had hoped to trade anonymously on the platform.

185. As described further below, the Dealer Defendants conspire to prevent anonymous trading so they can make sure the buy side is not trading on a platform the Dealer Defendants want to keep for themselves. Anonymity is critical for the buy side in these situations because the Dealer Defendants threaten any buy-side investor with the "penalty box" if they discover it has attempted to trade on an all-to-all platform, whether it is operated by an IDB, Tradeweb, Bloomberg, or an independent SEF.[115]

186. When an end user is caught trading on a prohibited platform, the Dealer Defendants often refuse to trade with the investor in any venue. Because the Dealer Defendants are the primary market makers in the IRS market, such a boycott effectively prevents the investor from trading IRS for as long as it is in the "penalty box." In some cases, the Dealer Defendants have even threatened a transgressing investor with withdrawal of key banking services. Such threats carry great weight and have had the intended deterrent effects. Because of the threat of such reprisals, buy-side investors do not attempt to trade on any of the IDB platforms, and they do not try to access the order books operated by Tradeweb or Bloomberg.[116]

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[114] Katy Burne, *CFTC to Propose Swaps Anonymity*, WALL ST. J. (Feb. 16, 2015), http://www.wsj.com/articles/cftc-to-propose-swaps-anonymity-1424132424.

[115] *See* Rennison, *supra* note 6 (quoting a U.S.-based hedge fund manager as stating: "In interest rate swaps, we have been given strong signals by our dealers that they would be annoyed if we, as a buy-side firm, showed up in the interdealer platforms.").

[116] The Dealer Defendants even use the "penalty box" to prevent any *dealer* from taking steps that are not in their collective interests, even if it is in the dealer's individual interest. For example, in 2003, Barclays attempted to launch a rudimentary, single-dealer electronic trading platform for IRS called "BARX" by partnering with Bloomberg. The other Dealer Defendants promptly put Barclays in the "penalty box" and refused to allow Barclays to participate in multi-

187. As a result, IDBs did not open their platforms to the buy side. Tullett Prebon, for example, recently announced it will soon open a platform on which buy-side entities can trade with one another (similar to its IDB platform), but it will limit trading to asset classes in which dealers' roles as market makers are already diminishing.[117] Mihiri Jayaweera, Tullett Prebon's strategy head, made clear that "[s]waps will be off limits" for the buy side, because IRS trading was "the territory of our dealer banks."[118]

2. *ICAP Agrees with the Dealer Defendants Not to Allow Buy-Side Trading as Part of a Détente*

188. In 2009, ICAP agreed with the Dealer Defendants to prevent the buy side from accessing its platform as part of an agreed-upon détente.

189. The events leading to the détente began in April 2009, when Tradeweb (along with its Dealer Defendant owners) launched a trading platform for mortgage bonds called "Dealerweb."[119] This launch had a devastating impact on ICAP, which had spent seven years building a mortgage-bond trading business that was transacting up to $50 billion in daily volume.

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dealer consortia, such as Tradeweb, for several years. BARX eventually ended its IRS business and became devoted mainly to foreign exchange ("FX") trading. Even then, the Dealer Defendants only let Barclays out of the "penalty box" when Barclays acquired the assets and personnel of the swaps business of Lehman Brothers, including Dexter Senft, who possessed deep connections with the other Dealer Defendants and went on to bring those relationships and that network to Morgan Stanley in 2010. Mr. Senft used his connections to help Barclays ingratiate itself with the other Dealer Defendants, including by taking a stake in Tradeweb. Mr. Senft similarly used his connections to maintain Morgan Stanley's involvement in the conspiracy after he joined in 2010.

[117] Duncan Wood, *Brokers Woo New Clients, Try Not to Upset Old Ones*, RISK (Sept. 9, 2016), http://www.risk.net/risk-magazine/feature/2469861/brokers-woo-new-clients-try-not-to-upset-old-ones.

[118] *Id.*

[119] *See* Bryce Elder & Neil Hume, *Icap Hurt by Banks' Platform*, FINANCIAL TIMES (Apr. 21, 2009), http://www.ft.com/intl/cms/s/0/a4bf29a2-2ead-11de-b7d3-00144feabdc0.html#axzz 419KBvtLz.

Following the Dealerweb launch, ICAP's mortgage-bond trading platform "lost 85 percent of its business over six weeks" as Dealerweb "basically walked away with the market."[120]

190. In retaliation for Dealerweb capturing the mortgage-bond market, ICAP threatened to launch an all-to-all trading platform for IRS that would be open to the buy side. This threat was credible because ICAP was developing an electronic-trading platform for the European IDB IRS market called i-Swap, which ICAP could have launched as an all-to-all, anonymous IRS trading platform in the United States.[121] Alternatively, ICAP could have chosen to allow buy-side investors to trade on its existing IDB platform. Either option threatened to end the artificial bifurcation of the IRS market the Dealer Defendants wanted to maintain.

191. In response to these mutual threats, ICAP communicated with representatives of the Dealer Defendants in the late spring and early summer of 2009. As a result of their discussions, ICAP and the Dealer Defendants agreed to a détente whereby the Dealer Defendants would not further expand Dealerweb into the IDB space in exchange for ICAP not establishing an all-to-all anonymous IRS trading platform.

192. In 2011, JP Morgan, Deutsche Bank, and Barclays entered into a transaction with ICAP termed "Project Snowflake." Under this transaction, ICAP retained a [redacted] but [redacted], [redacted], and [redacted] were given [redacted][122] This gave these three dealers effective control of the platform. For example,

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[120] Matthew Leising & Jody Shenn, *ICAP Loses 85% of Mortgage Bond Trading to Dealerweb*, BLOOMBERG (Apr. 21, 2009).

[121] *See, e.g.*, Michael Mackenzie, *Rate Swap Traders Wait for No Man*, FINANCIAL TIMES (Oct. 19, 2010), http://www.ft.com/cms/s/0/9c6cf29c-dba5-11df-a1df-00144feabdc0.html #axzz3p2lJ0933 (noting that i-Swap's European launch laid "the ground for an eventual assault on the US market").

[122] JPMC-IRS-00714977, at p.1-2.

[redacted] was required to change the [redacted][123]

193. The Dealer Defendants and ICAP have abided by their agreement to keep i-Swap closed to the buy-side to the present day. i-Swap's European launch was very successful, with 30% of ICAP's trade volumes moving onto the order book within months of its 2010 launch.[124] With demand for all-to-all trading at a high, it was in ICAP's self-interest to bring the platform to the United States, but it elected not to do so for many years in furtherance of its agreement with the Dealer Defendants. Pursuant to its agreement with the Dealer Defendants, and against its own economic self-interest, ICAP did not open its i-Swap platform to the buy side in the United States.[125]

194. When ICAP did expand i-Swap to the United States in February 2013, it limited participation to the dealers.[126] To circumvent provisions of Dodd-Frank that require trading platforms be open to all entities, ICAP publicly promoted that its platforms were open to everyone and even formally "registered" some buy-side entities as users. But, in actuality, ICAP's brokers prevented the buy side from trading on i-Swap by refusing to accept bids or offers from buy-side investors for voice-brokered trades or for inclusion on any electronic-

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123 JPMC-IRS-00714977, at p.2.

124 Masa Serdarevic, *Icap's Swap Platform Exceeds Expectations*, FINANCIAL TIMES (Mar. 31, 2011), https://www.ft.com/content/98526a30-5b9c-11e0-b965-00144feab49a.

125 *See* ICAP, *i-Swap*, http://www.icap.com/what-we-do/electronic/i-swap.aspx (last visited Dec. 7, 2016) (noting that, upon launch, i-Swap was not open to buy-side participants, that i-Swap "has a number of features that are specifically developed to reflect the trading strategies of the banks" and that, even today, i-Swap is not directly open to the buy side).

126 *See* ICAP, *ICAP Launches i-Swap in the US* (Feb. 19, 2013), http://newsroom.icap.com/icap-launches-i-swap-in-the-us.

trading platform.[127] They did this because the Dealer Defendants knew that "[redacted]"[128]

195. ICAP, in fact, restricted all of its IRS trading platforms in the U.S. to dealers alone. ICAP's restriction on the use of its platforms was the result of its agreement with the Dealer Defendants to maintain a bifurcated IRS market. Absent Defendants' conspiracy, it would have been in ICAP's interest to open its trading platforms to the buy side, effectively creating an all-to-all anonymous trading platform where the buy side could trade with more counterparties and without always going through a dealer.

196. To fulfill their end of the bargain, the Dealer Defendants have kept Dealerweb from expanding into IRS or any other market in any meaningful way. Tellingly, the Dealer Defendants formally opened Dealerweb for interdealer IRS trading but, as shown below (*see infra* ¶ 335, note 188), the Dealer Defendants supply Dealerweb only with a very low amount of trading volume — thereby making good on their end of the bargain while reminding ICAP and other IDBs that Dealerweb is an ever-present threat. The Dealer Defendants have also supported ICAP by directing their business to its platforms. Certain Dealer Defendants even entered into written agreements that they would not support other electronic IDB platforms, other than ICAP, and would inform each other if they were approached by such a platform.

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[127] Robert Mackenzie Smith, *Interdealer Brokers Need to Change, Say Critics*, RISK (Sept. 14, 2015), http://www.risk.net/risk-magazine/feature/2424954/risk-interdealer-rankings-2015-sector-needs-more-change-say-critics (quoting ICAP's Laurent Paulhac as acknowledging that the buy-side entities registered with ICAP do not actually trade on the platform).

[128] DB-InrelRS-00601088 (emphasis added).

F. <u>The Dealer Defendants Erect Artificial Barriers to Buy-Side Clearing</u>

197. The Dealer Defendants' strategic investment groups have long identified the central clearing of OTC products as a first step toward electronic trading that would "disintermediate" them. As a 2010 JP Morgan report stated, for example: "the main concern for the Investment Banking industry is that clearing is the first step leading to exchange/SEF trading for OTC products."[129] The Dealer Defendants perceived clearinghouses "as representing the thin end of a wedge that would end with contracts being put on exchanges for trading."[130]

198. Accordingly, the Dealer Defendants have long sought to control the clearing infrastructure for the financial markets they dominate so they would be positioned to head off threats to their dominance. When it became clear in the early 2000s that IRS were ready to move to an electronic trading model, the Dealer Defendants jointly took control of the clearing infrastructure for IRS. As detailed below, they later used this control to prevent buy-side access to IRS clearing. From 2008 through 2013, Dealer Defendant personnel met and expressly discussed how to prevent or delay buy-side access to IRS clearing. These discussions occurred principally through Tradeweb and an entity called "OTCDerivNet," which is discussed below.

1. <u>The Dealer Defendants Take Control of Clearing Infrastructure</u>

199. LCH.Clearnet is an entity that has built clearinghouses for a variety of financial instruments for over one hundred years. Indeed, LCH.Clearnet's history goes back to 1888,

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[129] Kian Abouhossein & Delphine Lee, *Global Investment Banks: Investment Banking Wallet Outlook — All Eyes on Equity Derivatives*, J.P. Morgan Cazenove, GLOBAL EQUITY RESEARCH (Sept. 8, 2010), https://www.scribd.com/document/65324953/JPMorgan-Global-Investment-Banks-2010-09-08.

[130] PETER NORMAN, THE RISK CONTROLLERS: CENTRAL COUNTERPARTY CLEARING IN GLOBALISED FINANCIAL MARKETS 302 (2011).

when it was known as the "London Clearing House." In September 1999, LCH.Clearnet launched a clearinghouse for IRS, named "SwapClear."

200. The Dealer Defendants, through their strategic investment groups, resolved to take control of this entity to position themselves to control how clearing would develop in the IRS market. To do so, they formed a new entity called "OTCDerivNet." OTCDerivNet was founded in October 2000 by Bank of America, Barclays, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, Merrill Lynch, and Société Générale. BNP Paribas, Morgan Stanley, RBS, and UBS joined in 2001. JP Morgan and HSBC joined in 2009.

201. The Dealer Defendants held OTCDerivNet out publicly as a venture intended to make the IRS market more efficient — for all participants including the buy side. They told the Federal Reserve Bank of New York, for example, that OTCDerivNet's purpose was to "support a secure, efficient and cost-effective post-trade dated environment for the mutual benefit of the (OTC) derivatives industry in a way which serves to mitigate operational, credit and settlement risks, whilst reducing support costs and regulatory capital requirements."[131]

202. The reality, however, is that the Dealer Defendants formed OTCDerivNet principally as a vehicle to secure control of SwapClear. In fact, immediately after they created OTCDerivNet, the Dealer Defendants announced it would "partner" with LCH.Clearnet, the

[131] Letter from the Dealer Defendants; Dresdner Kleinwort; Société Générale; Wachovia Bank, N.A.; ISDA; the Managed Funds Association; and the Asset Management Group of the Securities Industry and Financial Markets Association to Hon. Timothy Geithner, President of the Federal Reserve Bank of New York (Oct. 31, 2008), https://www.newyorkfed.org/media library/media/newsevents/news/markets/2008/regulators_letter.pdf.

nominal owner of SwapClear, for "the development of a secure, efficient and cost-effective post-trade dated environment for the benefit of the OTC derivative industry . . . ."[132]

203. This supposed "partnership" was wholly dominated by the Dealer Defendants. The Dealer Defendants, through OTCDerivNet, provided *100 percent* of the funding of SwapClear, in return for a share of profits and governance control. Utilizing this control, the Dealer Defendants swiftly had SwapClear adopt various restrictions in its charter and rulebook that effectively limited clearing membership to dealers only. They imposed a requirement that any new member must put up $5 billion in capital toward the clearinghouse — an amount they knew only large investment banks (*i.e.*, the dealers) could afford. And they adopted a requirement that no new clearing member could join SwapClear without the unanimous approval of the existing members (*i.e*., the Dealer Defendants).

2. The Dealer Defendants Conspire to Prevent Other Clearing Entrants

204. By the mid-2000s, as the Dealer Defendants became more concerned about the growth of electronic trading of IRS, they used OTCDerivNet to shut down that growth.

205. In furtherance of this objective, the Dealer Defendants installed many of the same personnel on the board of OTCDerivNet Board of Directors that they installed on the boards of the two Tradeweb entities they formed when they took control of that entity in late 2007, as described above. These included Shea Wallon (Bank of America), Andrew Challis (Barclays), Timothy Blake (Credit Suisse), Dexter Senft (Morgan Stanley), and Michelle Neal (RBS). By

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[132] INTERNATIONAL MONETARY FUND, *United Kingdom: Observance by LCH CLEARNET LIMITED of the CPSS-IOSCO Recommendations for Central Counterparties Detailed Assessment of Observance* 40 (July 2011), https://www.imf.org/external/pubs/ft/scr/2011/cr11235.pdf.

serving on both boards, these individuals helped the Dealer Defendants maintain alignment across multiple levels of the IRS market.

206. Other OTCDerivNet board members included others actively involved in the conspiracy, including William Hartnett, the Head of Strategic Investments for Citi.[133] These personnel had extensive discussions with each other about buy-side clearing of IRS. From 2008 through 2013, they specifically discussed how the Dealer Defendants could jointly prevent or delay the buy side's ability to clear IRS trades.

207. The first major direct threat to the Dealer Defendants' control of the IRS clearing infrastructure came from the CME, a sophisticated entity with a long history of bringing clearing solutions (and transparent and competitive trading platforms) to a variety of financial markets. CME was established in 1898. Over the next 100 years, CME built clearing and exchange solutions for numerous financial markets.

208. In the mid-2000s, CME was focused on providing clearing and trading solutions for swaps markets, including both IRS and CDS. In early 2008, CME announced plans to introduce a cleared IRS product in the U.S. called "CME Cleared Swaps," which offered "the first centrally-cleared interest rate swaps available to all over-the-counter (OTC) market

[133] Other Board members of OTCDerivNet included Adam Battersby (Co-Head of Global Principal Investments for Bank of America), Amy Bradden (COO of Global Structured and Linear Rates for Bank of America), David Ornstein (COO of Markets and Head of Cross-Business Functions for Barclays), Ariane Athalie-Tersin (Head of Fixed Income Interest Rates Derivatives Trading for BNPP), Gavin Dixon (Fixed Income Business Manager and Derivatives Clearing for BNPP), David Elsley (Head of Rates for Citi), Stuart Bancroft (Head of Rates Trading for Citi), Gael De Boissard (Co-Head of Fixed Income for Credit Suisse), Trudy Ross (Deutsche Bank), Andrew Hudis (Goldman Sachs), Elie El Hayek (Global Head of Rates for HSBC), Neill Pattinson (Head of Global Rates and Head of Derivatives Clearing for HSBC), Andrew Powell (COO of Global Rates for JP Morgan), David Hudson (CFO of Global Markets for JP Morgan), Stephen O'Connor (Morgan Stanley), Simon Wilson (Deputy Head of EMEA Delta Trading, Global Head of Algorithmic Rates Trading for RBS), and David Leeming (Global Head of Product Management and Securities E-Commerce for UBS).

participants."[134] The CME offered clearing of OTC swaps executed on or submitted through its trading platform Swapstream, as well as those executed bilaterally, through its OTC clearing solution "CME Clearing360."[135]

209. The Dealer Defendants viewed this as a serious threat because CME had built successful clearinghouses and exchanges for other asset classes, and it was clearly focused on bringing buy-side clearing and trading of derivatives products, including both IRS and CDS. In fact, around the same time it announced its plans for an IRS platform, CME also announced it was partnering with Citadel to provide a CDS order book with central clearing for the buy side. As discussed further below, the Dealer Defendants paid nearly $1.9 billion to settle claims in a prior lawsuit that they conspired to block that platform, known as "CMDX," from successfully entering the market. *See* Section III.D. *infra*.

210. The Dealer Defendants knew CME had the technical and commercial ability to offer integrated all-to-all trading and central clearing for IRS to the buy side. CME actively promoted its plans to make centrally cleared IRS available to *all* market participants and announced that thirty-three buy-side participants had committed to an Early Adopter Program for clearing via Swapstream.[136] This commitment shows that the buy side was ready, willing, and eager to clear their IRS trades. The participants included mortgage banks along with more traditional buy-side entities such as asset managers, hedge funds, and proprietary trading firms.

[134] PR NEWSWIRE, *Swapstream Announces 33 Participants for CME Swaps on Swapstream, the First Centrally Cleared Interest Rate Swap* (Feb. 4, 2008), http://www.prnewswire.com/news-releases/swapstream-announces-33-participants-for-cme-swaps-on-swapstream-the-first-centrally-cleared-interest-rate-swap-56784472.html.

[135] BUSINESS WIRE, *GL TRADE and Swapstream Enter into Strategic Agreement to Support CME Cleared Swaps* (Sept. 3, 2008), http://www.businesswire.com/news/home/2008090 3005862/en/GL-TRADE-Swapstream-Enter-Strategic-Agreement-Support.

[136] PR NEWSWIRE, *supra* note 134.

211. The Dealer Defendants responded to this threat by boycotting Swapstream. Meeting through OTCDerivNet, the Dealer Defendants agreed to clear only *interdealer* IRS trades and only on *SwapClear* (the entity they controlled). Because the Dealer Defendants are a party to nearly every IRS trade, their collective refusal to clear IRS trades through Swapstream meant that effectively no trades were cleared through the platform, starving CME of clearing volumes and revenues. As a direct result of the Dealer Defendants' boycott, CME's clearing solution for IRS swiftly failed.

3. <u>The Dealer Defendants Maintain Artificial Barriers to IRS Clearing by the Buy Side</u>

212. In the wake of the financial crisis, various governmental regulators and large institutions like Fannie Mae and Freddie Mac put considerable pressure on the Dealer Defendants to expand clearing in derivatives markets and to open up clearing to the buy side.[137] In response, the Dealer Defendants made changes at SwapClear that superficially purported to allow buy-side access, while simultaneously adopting new rules that they knew would, as a practical matter, prevent meaningful buy-side participation.

213. Specifically, beginning in late 2009, the Dealer Defendants amended SwapClear's rulebook to require that clearing members must contribute extremely large amounts of capital to the clearinghouse's default (or "guaranty") fund. These requirements were significantly higher than necessary for the clearinghouse to fulfill its role. The Dealer Defendants set them at this high level by design, knowing that only large investment banks like the Dealer Defendants would possess sufficient capital reserves to make the required contributions and thereby ensuring

[137] Peter Madigan, *Geithner Calls for Law Change to Force OTC Derivatives Clearing*, RISK (May 13, 2009), http://www.risk.net/risk-magazine/news/1504635/geithner-calls-law-change-force-otc-derivatives-clearing.

that only dealers could clear trades through the platform. As they acknowledged only in their *internal* discussions, the Dealer Defendants adopted these rules to prevent buy-side investors from joining SwapClear as clearing members.

4. *Post Dodd-Frank, the Dealer Defendants Use Their Role as FCMs to Block Trading on All-to-All Platforms*

214. In 2010, Congress passed Dodd-Frank to bring more competition to derivatives markets, including the IRS market, by mandating that certain IRS move to exchanges or SEFs — and that these IRS be centrally cleared. As noted, Dodd-Frank employs an FCM model of clearing, which effectively makes the Dealer Defendants' FCM divisions gatekeepers for IRS clearing.[138] As detailed below, the Dealer Defendants have exploited that gatekeeping role to further their conspiracy by refusing to clear buy-side trades on IRS trading platforms that utilize all-to-all trading protocols.

215. FCMs, or Futures Commission Merchants, generate revenues by clearing trades on behalf of firms that are not members of a clearinghouse, such as buy-side investors. This relationship should be mutually beneficial — the FCMs earn fees on each trade they submit to a clearinghouse, and their buy-side customers are able to gain access to clearing without having to comply with onerous or prohibitive capital requirements.

216. By regulation, the Dealer Defendants' FCMs must operate separately from the Dealer Defendants' trading desks, and FCMs derive no revenues from IRS trading.[139] Thus, in a

[138] There are only approximately twenty active FCMs for IRS trading, and all but two are owned by the Dealer Defendants. Société Générale and RBC operate the other two, but they clear very small volumes. State Street operated an FCM for a short period in 2014, but it cleared only a small number of trades. Tod Skarecky, *FCM Rankings – Q3 2016*, CLARUS FIN. TECH. (Nov. 16, 2016), https://www.clarusft.com/fcm-rankings-q3-2016/.

[139] *See* 17 C.F.R. § 23.605(d)(1) ("No swap dealer or major swap participant shall directly or indirectly interfere with or attempt to influence the decision of the clearing unit of any

competitive marketplace, FCMs would be agnostic as to which trading platforms their customers use or with whom they trade. An FCM operating in its own interest would, subject to credit limits, want to maximize the amount of trades it clears for clients, regardless of where or how the trades were executed. This is because the major risk FCMs face is the risk their buy-side clearing clients' default, a risk which is totally unrelated to the platform on which a client conducts an IRS trade.

217. Determined to stop all-to-all platforms from succeeding in the market, however, the Dealer Defendants had their FCMs withhold clearing services from any buy-side entity or second-tier dealer seeking to trade on SEFs operating all-to-all anonymous trading platforms, including TeraExchange, Javelin, and TrueEx, as detailed below. The Dealer Defendants' agreement not to clear trades conducted on all-to-all anonymous SEFs effectively prevents IRS trades from occurring at all on these platforms.

218. This conduct is contrary to the independent self-interest of the Dealer Defendants' FCM units and would be economically irrational if it did not further the interests of the Dealer Defendants' cartel. In withholding such clearing services, the Dealer Defendants' FCMs capitulated to the demands of their respective trading desks and management, who were determined to keep buy-side entities from trading on anonymous all-to-all platforms.

219. FCMs must also confirm that their customers are sufficiently creditworthy to execute and clear any given trade *before* the trade takes place, and will not allow the trade to

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affiliated clearing member of a derivatives clearing organization to provide clearing services and activities to a particular customer"); *id*. § 23.605(d)(2) ("Each swap dealer and major swap participant shall create and maintain an appropriate informational partition . . . between business trading units of the swap dealer or major swap participant and clearing units of any affiliated clearing member of a derivatives clearing organization to reasonably ensure compliance with the Act and the prohibitions specified in paragraph (d)(1) of this section.").

move forward if a customer fails this "pre-trade credit check."[140] To prevent customers from trading on an all-to-all anonymous trading platform, the Dealer Defendants' FCMs frequently refuse to conduct pre-trade credit checks for any prospective trade on an anonymous all-to-all SEF. When buy-side investors attempt to trade on an all-to-all anonymous SEF, the Dealer Defendants' FCMs refusal to conduct a pre-trade credit check means the trade cannot occur. FCMs therefore have the ability to act as gatekeepers by restricting the order flow of buy-side customers onto all-to-all platforms.

220. The Dealer Defendants routinely provide pre-trade credit checks and clear buy-side trades on other platforms that are not anonymous. In particular, they provide pre-trade credit checks and clear buy-side trades executed on co-conspirator Tradeweb's dealer-to-client RFQ or on other platforms that they do not view as threats to the bifurcated market structure. They refuse, however, to provide pre-trade credit checks or clear any trade by a buy-side entity executed on an IDB or an order book, including those operated by Bloomberg and Tradeweb, thereby making it effectively impossible for the buy side to trade on these platforms.[141]

221. The Dealer Defendants' FCMs are able to coordinate their activities because, among other things, their clearing operations communicate regularly with each other. For example, Piers Murray, the Global Head of Fixed Income Prime Brokerage at Deutsche Bank,

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[140] A pre-trade credit check can occur via either a "ping" or a "push" system. Under a "ping" system, a SEF will "ping" an FCM on a per-trade basis to confirm if a customer has sufficient credit to conduct that trade. Under a "push" system, an FCM will pre-authorize a customer to clear trades up to a certain credit limit, a practice commonly referred to as "pushing limits." As an example, JP Morgan might "push" a limit of $500 million to a SEF for its customer, buy-side customer X, meaning that X could trade and clear up to $500 million of IRS on that SEF without needing to re-obtain approval from JP Morgan before every trade.

[141] *See* Kelleher, *supra* note 62 at 12 (noting that dealers "deny[] their clearing customers the credit limits necessary to trade on SEFs that don't acquiesce to the dealers' demands").

used to work as the Global Head of Rates Clearing at JP Morgan.[142] Mr. Murray regularly communicates with his counterparts at other Dealer Defendants, such as Robert Burke, Co-Head of Bank of America's Global Futures and Derivatives Clearing Services, and Michael Dawley, the head of Goldman Sachs' FCM. As noted above, many of the heads of the Dealer Defendants' FCMs meet and collude under the cover of FIA board meetings. Many of the heads of the Dealer Defendants' FCMs, such as Michael Dawley (Goldman Sachs) and Raymond Kahn (Barclays), sat on the FIA Board of Directors, and used that forum to collude and coordinate their boycott of SEFs offering all-to-all platforms.

222. For example, in July 2015, certain of the Dealer Defendants' FCMs, including those of Barclays, BNPP, Credit Suisse, and JP Morgan, began jointly penalizing certain buy-side firms that were pushing against the bifurcated market structure by hiking their clearing fees "by as much as ten-fold;" other buy-side entities were "protected" from the fee hikes.[143] In a competitive market, the Dealer Defendants' FCMs would compete to provide clearing services to their clients. Absent collusion, the FCMs of these banks would not collectively target the same buy-side firms with higher fees in response to their engaging in all-to-all trading.

223. The Dealer Defendants' conduct is strikingly consistent. The head of rates at a high-frequency trading firm "noticed . . . indirect push-back," including that "one dealer . . . put the brakes on talks to clear for the firm."[144] The clearing talks "just stalled" after the dealer

[142] Matt Cameron, *Deutsche Snares JP Morgan's Murray for Clearing Role*, RISK (July 2, 2012), http://www.risk.net/risk-magazine/news/2188410/deutsche-snares-jp-morgan-s-murray-clearing-role.

[143] Peter Madigan, *FCMs Try to "Off-Board" Credit and Commodity Funds*, RISK (July 30, 2015), http://www.risk.net/risk-magazine/feature/2419614/fcms-try-to-off-board-credit-and-commodity-funds.

[144] Rennison, *supra* note 6.

learned that the buy-side firm "wanted to start acting as a market-maker on S[EFS]."[145] "A number of other sources at hedge funds and proprietary trading firms" encountered similar "resistance from their dealers."[146] Many buy-side firms have had similar experiences.

224. The Dealer Defendants' ability to prevent clearing has blocked market entry for all-to-all anonymous trading platforms, including those offered by SEFs, and it has kept the buy side from accessing IDBs or other order-book platforms. Without access to clearing services from the Dealer Defendants' FCMs, buy-side firms cannot trade on such platforms and are forced to trade on dealer-friendly RFQ platforms like Tradeweb that retain the basic, inefficient dealer-to-client trading structure of the OTC market.

G. **The Dealer Defendants Conspire to Block SEFs Offering All-to-All Trading from Entering the Market**

225. In recent years, the Dealer Defendants conspired to boycott certain electronic trading platforms called Swap Execution Facilities, or "SEFs." As noted, Dodd-Frank mandates that certain derivatives, including IRS, be centrally cleared and traded on exchanges or SEFs. Congress envisioned that exchanges or SEFs would include all-to-all trading platforms on which the buy side could trade IRS efficiently with other investors or dealers — thereby reaping the benefits of exchange trading in the form of price transparency and competition. Several companies spent millions of dollars developing all-to-all electronic trading platforms for IRS that would be open to the buy side, but the Dealer Defendants conspired to prevent them from succeeding.

226. The Dealer Defendants' joint opposition to these SEFs was coordinated in part through their strategic investment groups, including those personnel identified by name above.

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[145] *Id.*

[146] *Id.*

They met regularly to discuss and coordinate the Dealer Defendants' collective strategy with respect to market structure and development issues. They discussed their joint opposition to all-to-all IRS trading. They also discussed that such functionality would bring pricing transparency and competition, which would in turn result in the compression of bid/ask spreads and lower profits for the Dealer Defendants. During these secret discussions, the Dealer Defendants mapped out strategies for combating and thwarting the threat posed by SEFs.

227. One forum through which the Dealer Defendants met and conspired about how to thwart the SEFs they did not like was provided by Tradition. From 2013 to 2015, Tradition personnel hosted monthly meetings in New York City with the collective heads of the Dealer Defendants' IRS trading desks to discuss issues relating to SEFs. The Dealer Defendants used these meetings to coordinate their positions regarding the SEFs and to ensure none of them broke ranks to support SEFs that would threaten the Dealer Defendants' control of the market.

228. When SEFs solicited the participation of the Dealer Defendants, the Dealer Defendants would often speak with each other to ensure a coordinated response. For instance, when a SEF approached Goldman Sachs, the point of contact was often a member of the E-Commerce division, whose job was to review the platform and then present it to senior staff, including the Head of Interest Rates, members of the PSI Group, and heads of the relevant trading desks, along with a recommendation as to whether Goldman Sachs should use the platform. The Goldman Sachs E-Commerce employee, however, would also call his or her counterparts at the other Dealer Defendants to ensure that the Dealer Defendants were responding to the SEF in a unified manner. Thus, Goldman Sachs and the other Dealer Defendants did not make individual decisions about which SEFs to support. They made those decisions in collaboration with each other.

229. The Dealer Defendants' joint efforts to prevent the SEFs from succeeding in opening up all-to-all trading to the buy side were well organized, extensive, and "relentless" — the obstacles they imposed were "sometimes buried in SEF rulebooks and trading workflow minutia, and other times amounting to outright intimidation."[147] As noted above, the Dealer Defendants conspired to implement roadblocks at every step of the trading pipeline and to impose protocols, such as name give-up, that allowed them to police their conspiracy.

230. Not long ago, market participants forecasted "that 40 to 50 firms could end up competing for swaps execution business."[148] Those forecasts reflected the widespread judgment of market participants that the IRS market was poised to evolve, and they also reflect the fact that Defendants' collusion was then unknown. As discussed below, however, each of the SEFs that sought to offer all-to-all trading to the buy side have been largely crushed by the Dealer Defendants' cartel.[149]

231. Three different SEFs — TeraExchange, Javelin, and TrueEx — developed the necessary technology, secured the appropriate regulatory approvals, and garnered sufficient support to introduce anonymous all-to-all trading platforms to the buy side. The Dealer Defendants, however, effectively shut down TeraExchange and Javelin by refusing to trade on their platforms or to clear any buy-side trades executed on their platforms and by threatening to retaliate against anyone who would trade on their platforms. Simply put, the Dealer Defendants agreed to boycott these entities. With respect to TrueEx, the Dealer Defendants used similar

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[147] Kelleher, *supra* note 62 at 12.

[148] Mike Kentz, *SEF Start-Ups Face Obstacles*, INT'L FIN. REV. (July 26, 2013), http://www.ifre.com/sef-start-ups-face-obstacles/21099200.article.

[149] *Id.* (noting that "market participants are beginning to doubt the viability of start-up platforms that were once assumed to be guaranteed a slice of the market").

strategies to prevent it from offering all-to-all trading to the buy side and instead limiting its platform to dealer-to-client RFQ protocols.[150]

232. Documents produced in discovery show that the Dealer Defendants communicated among each other concerning the emergence of all-to-all trading. [redacted] of Morgan Stanley reported to his Morgan Stanley colleagues on a [redacted] he had with "[redacted]"[151] O'Flynn reported that "[redacted]"[152]

233. As a result of the Dealer Defendants' boycott, the buy side continues to be shut out of all-to-all electronic trading. As Richard Mazzella, Chief Operating Officer for Global Fixed Income at Citadel explained, there remains "a two-tier market today on the S[EF]s — dealer-to-dealer and dealer-to-client" and "[i]t is not truly an all-to-all market."[153] Similarly, Darcy Bradbury of D.E. Shaw, a buy-side institution, has commented that "we've ended up with a bifurcated market where you have a couple of customer-to-dealer SEFs where basically that's the only place the customers can trade. And then you have the deeper pools of liquidity, the

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[150] Each of these three SEFS — TeraExchange, Javelin, and TrueEx — are headquartered in New York City, and thus the Dealer Defendants' boycott, which involved the participation of foreign Dealer Defendants, was focused squarely on this District. All three SEFs had face-to-face meetings with Dealer Defendants in New York City. In addition, many of the secret meetings where the Dealer Defendants agreed to boycott these three SEFs were held in New York.

[151] MS-IRS00716212.

[152] MS-IRS00716212.

[153] Peter Madigan, *Buy-Side Firms Slam Broker Sefs over Lack of Anonymity*, RISK (Oct. 24, 2014), http://www.risk.net/risk-magazine/news/2377259/buy-side-firms-slam-broker-sefs-over-lack-of-anonymity.

central limit order books, at the interdealer broker SEF platforms."[154] Ms. Bradbury added that the buy side wants "to be able to use central limit order books instead of just the RFQ process that's available on the customer-to-dealer SEFs" because the platforms will allow end users to obtain "better information about what pricing is," as well as "more competition" and "deeper pools of liquidity."[155]

1. *<u>The Dealer Defendants Boycott TeraExchange</u>*

234. TeraExchange invested a great deal of time and money to create viable anonymous all-to-all trading platforms that would have, immediately, made IRS available at lower bid/ask spreads, thus saving the members of the proposed Class significant amounts of money. But the Dealer Defendants effectively destroyed TeraExchange through a well-orchestrated campaign to drive it from the marketplace. The Dealer Defendants destroyed TeraExchange because they saw it as, in their very own words, a "Trojan Horse" — if its platform succeeded, their privileged position in the marketplace would be severely threatened.

235. TeraExchange was formed in 2010. After raising $7 million in capital on a $27 million valuation, it developed all-to-all trading platforms (both an RFQ and an anonymous order book) for several asset classes, including IRS.[156] These platforms had protocols that would provide firm pricing to the buy side and more price transparency and competition than other OTC-like trading platforms available in the market.

[154] Transcript of the April 2, 2015 Meeting of the U.S. Commodity Futures Trading Commission Market Risk Advisory Committee Meeting ("MRAC Transcript"), 140:2-8, http://www.cftc.gov/idc/groups/public/@aboutcftc/documents/file/mrac_040215_transcript.pdf.

[155] *Id.* at 140:9-19.

[156] TERAEXCHANGE, http://teraexchange.com/Home/About (last visited Dec. 7, 2016).

236. TeraExchange spent millions of dollars developing its platforms. It launched in 2011 with a robust offering that industry observers recognized was "poised to take business from the big banks that have dominated swaps trading."[157] It continued to add attractive features to its platform. By 2012, TeraExchange's order book included a pre-execution credit confirmation tool, known as TeraCheck, to ensure the buy side would be quoted firm prices, rather than just indications of interest. TeraExchange also included technology to connect its platforms to industry-standard credit hubs that allow participants' credit limits to be accessed pre-trade, such as the hub operated by Traiana, Inc.,[158] to offer FCMs options for pre-trade risk mitigation. TeraExchange also connected to the CME's clearinghouse and worked to develop a portfolio margining system so participants could easily calculate and post collateral for their cleared IRS.[159]

237. TeraExchange, like other SEFs, welcomed and sought the participation of the Dealer Defendants on its platform. At the same time, its business plan did not depend on signing up the Dealer Defendants as liquidity providers in the first instance. Instead, TeraExchange

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[157] Matthew Leising, *A Safer Way to Trade Interest Rate Swaps*, BLOOMBERG (Feb. 27, 2014), http://www.bloomberg.com/bw/articles/2014-02-27/interest-rate-swaps-trading-comes-out-of-the-shadows.

[158] Traiana, Inc. is jointly owned by ICAP and Dealer Defendants Bank of America, Barclays, Citigroup, Deutsche Bank, JP Morgan, and RBS. Luke Jeffs, *ICAP Sells Stake in Traiana to Seven Investment Banks*, REUTERS (Jan. 14, 2013), http://www.reuters.com/article/icap-banks-traiana-idUSL6N0AJAEU20130114. The Dealer Defendants' FCMs used their control over Traiana to discriminate against all-to-all SEFs, such as TeraExchange, by posting high credit limits for client trades on dealer-friendly SEFs, such as Tradeweb, while posting a credit limit of zero for all-to-all platforms. This effectively prevented the FCMs' clients from trading on the all-to-all platforms.

[159] *See* PR NEWSWIRE, *TeraExchange Connects to CME Clearing to Provide Margin Relief to Customers Trading Interest Rate Swaps, Eurodollar and Treasury Futures* (June 25, 2013), http://www.prnewswire.com/news-releases/teraexchange-connects-to-cme-clearing-to-provide-margin-relief-to-customers-trading-interest-rate-swaps-eurodollar-and-treasury-futures-212928021.html.

focused on recruiting large proprietary trading firms that were eager to trade IRS — including entities that were members of the FIA Principal Traders Group. These included Allston Trading; Chicago Trading Company; Chopper Trading LLC; DRW Holdings, LLC; Geneva Trading USA, LLC; HTG Capital Partners; IMC Chicago LLC; Jump Trading LLC; KCG Holdings; Liquid Capital; Marquette Partners, LP; Optiver US LLC; Spot Trading LLC; Sun Trading, LLC; Teza Technologies; Tower Research Capital, LLC; and other large trading institutions.

238. While many of these entities were historically considered to be on the buy side, they were increasingly providing liquidity in other asset classes while trading at large volumes. TeraExchange recognized that members of the Principal Traders Group were natural early adopters of its platform because they understood its value proposition and represented large portions of the volume in equity, currency, and futures products traded at the time. These entities were ready, willing, and able to provide the liquidity to the TeraExchange platform that would allow the platform to thrive.

239. TeraExchange also recognized that these non-dealer (or "non-traditional") liquidity providers had trading strategies that differed from those of the Dealer Defendants. In particular, they typically engaged in high volume trading involving little warehousing of risk, making them largely risk neutral. Consequently, these trading firms were more eager than traditional dealers to trade more IRS and were willing to quote immediately executable bid/ask spreads. As a result of this approach, they were also willing to trade IRS at tighter bid/ask spreads than traditional dealers — something that would directly benefit the buy side by providing lower prices, greater transparency, and lower transaction costs.

240. In turn, the willingness of these firms to trade at tighter bid/ask spreads meant that their participation on TeraExchange's platform would help drive the Dealer Defendants to the

platform. This is because the Dealer Defendants' clients often demand that dealers engage in "best execution," which refers to a trading entity's duty to secure the best price available in executing a trade when acting as the client's agent. Best execution typically requires a dealer, when executing orders, to take all reasonable steps to obtain the best possible result for clients. Banks like the Dealer Defendants are often required by regulation or contract (or both) to obtain best execution.

241. Accordingly, TeraExchange recognized that, if IRS trades were available on TeraExchange at tighter bid/ask spreads due to the liquidity provided by proprietary trading firms, the buy side would demand that the Dealer Defendants execute their trades there as well. That is why the Dealer Defendants referred to TeraExchange as a "Trojan Horse."

242. The strong potential of TeraExchange and other such platforms was widely acknowledged. The *Wall Street Letter*, a respected source on information on trading technology, nominated TeraExchange for three Institutional Trading Awards in 2013, and TeraExchange receiving the "Highly Commended" award for best derivatives trading platform. In a 2013 survey, market participants ranked TeraExchange as one of the top two SEFs they planned to explore as a trading venue. By the end of 2013, based on the strength of its offerings, TeraExchange was valued at more than $50 million.

243. Following the CFTC's finalization of SEF registration rules, TeraExchange spent substantial resources to make its platform compliant with the final rules and submitted the necessary materials, including its rulebook, for SEF registration. The CFTC reviewed and

commented on, but did not require revisions to, TeraExchange's rulebook. On September 19, 2013, the CFTC granted TeraExchange temporary SEF certification.[160]

244. TeraExchange met with hundreds of market participants and received many positive responses. Numerous entities committed to provide liquidity to the platform, including Annaly Capital Management, Inc.; AQR Funds; DRW Holdings, LLC; Fortress Investment Group LLC; Kepos Capital; Linden Capital Partners; Mizuho Bank, Ltd.; MKP Capital; Saba Capital Group; SF Group; Susquehanna International Group, LLP; and Virtu Financial. The members of FIA's Principal Traders Group were, in particular, very receptive, as TeraExchange's offering fit with this group's mission to promote cost-effective and transparent access to U.S. financial markets. Many of these entities carried out successful tests of TeraExchange's technology in connection with their trading interfaces.

245. After learning of TeraExchange's plans, however, the Dealer Defendants conducted secret meetings, including under the cover of Tradeweb, to discuss how to neutralize this threat. One tactic they agreed upon was to replicate what they had done with Tradeweb — the Dealer Defendants would jointly "invest" in TeraExchange, under the pretense of offering it more capital, but with the real goal of taking it over and shutting it down.

246. Several of the Dealer Defendants reached out to TeraExchange under the guise of exploring whether they would sign up for its platform. TeraExchange was happy to meet with the Dealer Defendants and hoped to secure their support. At a series of meetings in early 2013,

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[160] In 2013, the CFTC was only temporarily registering SEFs. Even with temporary registration, TeraExchange and other SEFs were permitted to facilitate trading. The CFTC did not award full registration for any SEFs until 2016. U.S. Commodity Futures Trading Commission, *Trading Organizations – Swap Execution Facilities (SEF)*, http://sirt.cftc.gov /SIRT/SIRT.aspx?Topic=SwapExecutionFacilities (last visited Dec. 7, 2016). The CFTC granted TeraExchange full SEF registration on May 26, 2016.

however, TeraExchange had a strikingly similar experience with each of these banks: TeraExchange would walk into a meeting expecting to meet with the head of IRS trading only to be met by strategic investment personnel offering to take a stake in TeraExchange's company.

247. At a meeting with Goldman Sachs, for example, TeraExchange had been led to believe it would be meeting with members of the IRS trading desk. Even though it was not focusing on dealer recruitment, TeraExchange welcomed such meetings because it wanted to attract dealers to its platform. But, instead of personnel from the trading desk, Brad Levy and Kimberly Trautmann of Goldman Sachs' PSI group attended. They claimed they wanted to "invest" in TeraExchange and asked to find out more about the platform. In fact, Goldman Sachs had no real intention of supporting the platform, but was instead using its strategic investments group to gather intelligence that could be used to shut it down or crush it. Similar bait-and-switch techniques were employed by the strategic investment groups of Barclays, Bank of America (Shea Wallon attended), Credit Suisse, Citi (William Hartnett attended), Deutsche Bank, and Morgan Stanley.

248. In March 2013, TeraExchange held a meeting with JP Morgan employees to demonstrate its trading platform. Afterwards, Roman Shukhman, a JP Morgan CDS trader, told a TeraExchange employee that he would need personal security and should check his car for bombs in the morning if TeraExchange launched an anonymous central limit order book for swaps.

249. TeraExchange was surprised by this series of events because it wanted the Dealer Defendants to *join* its platform, not to take it over. TeraExchange thus tried to convince the Dealer Defendants to join its platform, even while declining their "investment" offers. While the Dealer Defendants claimed to express an interest in supporting TeraExchange in the meetings, in

fact not one of them agreed to sign up for TeraExchange's platform. To the present day, not a single Dealer Defendant has agreed to provide liquidity to TeraExchange's platform, pursuant to their agreement to starve TeraExchange of liquidity.

250. The Dealer Defendants also employed more aggressive tactics. As noted above (*see supra* ¶¶ 214-229), they jointly refused to "clear" any of their buy-side clients' trades occurring on TeraExchange. Because Dodd-Frank effectively requires that any trades occurring on SEFs be cleared, the clearing subsidiaries of the Dealer Defendants could effectively prevent those trades from occurring by refusing to clear trades for clients on TeraExchange.

251. As TeraExchange moved forward with launching its platform, it began receiving reports from those who had signed up that the Dealer Defendants' FCMs were refusing to clear trades executed on TeraExchange. Once again, the Dealer Defendants were taking this identical position in unison, while often providing the same pretextual and illogical reasons for doing so.

252. The FCMs took steps to obscure the true nature of their boycott. For example, at times, they would not refuse to clear any trades on TeraExchange outright. Instead, they would quote extremely high clearing fees for trades executed on TeraExchange, while quoting far lower fees for clearing trades on other platforms they did not view as threats. For example, when Knight Capital Group ("Knight") attempted to execute trades on TeraExchange's order book, Jeffrey Valentino and Don Degraff of Bank of America's FCM informed Knight and TeraExchange, at a June 26, 2012 meeting, that it would only clear the trades in exchange for exorbitant clearing fees. At the same time, it charged Knight no clearing fees for trades executed on dealer-friendly platforms such as Tradeweb and Bloomberg. Bank of America's discrimination against all-to-all platforms made it economically impossible for Knight to trade on TeraExchange's order book.

253. TeraExchange attempted to convince the FCMs to reconsider their refusal to clear trades executed on TeraExchange's platform, but the banks maintained their boycott despite having no legitimate justification for their conduct. When, for instance, TeraExchange met with Bob Burke, managing director and head of Global OTC Clearing for Bank of America, Mr. Burke flatly said: "My bosses are never going to let me" clear trades for TeraExchange.

254. Raymond Kahn (Managing Director, Global Head of Futures Clearing & Americas Head of Agency Derivative Services, Barclays) told TeraExchange that Barclays could not clear trades executed on TeraExchange because it was "resource constrained." Piers Murray of Deutsche Bank, personnel at Morgan Stanley, and Steve Mahoney of Credit Suisse similarly informed TeraExchange that their banks were also too "resource constrained" to work with TeraExchange. These strikingly similar, pretextual excuses were plainly coordinated; clearing trades executed on TeraExchange required minimal resources, and these banks performed similar services for clients using other SEFs.

255. HSBC's FCM similarly gave TeraExchange the runaround. For over a year, Julianna Salazar, Vice President of Futures & OTC Clearing for HSBC's FCM, required approximately half a dozen demonstrations of TeraExchange's trading platforms and their connectivity to HSBC's FCM in the course of her consideration of whether HSBC's FCM would connect to TeraExchange. Despite repeated successful demonstrations, Ms. Salazar repeatedly refused to give a clear answer on whether HSBC would clear its customers' trades executed on the platforms. At the end of nearly eighteen months, Ms. Salazar finally told TeraExchange that HSBC would not sign on as a clearing member without approval from the IRS trading desk — approval that was never given.

256. ANZ Bank is a large Australian bank that was poised and eager to provide liquidity on TeraExchange's platform. It traditionally cleared its trades through FCMs at Bank of America and Citi. When, at an April 13, 2012 meeting, ANZ asked Citi to clear its trades executed on TeraExchange, Chris Perkins, managing director and global head of OTC clearing at Citi, told ANZ it would not clear ANZ's trades executed on TeraExchange's platforms. Citi instead stated that it would only clear trades done directly with its own trading desk. Absent collusion, Citi's FCM would not have flatly refused to clear these trades for fear of losing the business of this major client to Bank of America's FCM. But, because the two banks were conspiring, Citi knew that Bank of America's FCM would also refuse to clear ANZ's trades executed on TeraExchange's platforms.

257. The Dealer Defendants' collective refusal to clear trades executed on TeraExchange's platform was devastating. As a result, TeraExchange began to see early supporters withdraw from its platform. TeraExchange also learned that buy-side entities were facing reprisals even for meeting with TeraExchange. Michael O'Brien of Eaton Vance, for instance, expressed his fear that "JP Morgan knew" of its September 16, 2013 meeting with TeraExchange. Brian Hurst, CEO of AQR, informed TeraExchange that it was interested in the platform but it doubted any of the Dealer Defendants' FCMs would let AQR trade on the platform. Susquehanna International Group, LLP, for instance, withdrew its commitment to the platforms in October 2014.

258. Despite these tremendous obstacles, TeraExchange made very limited progress. On June 13, 2014, Annaly Capital Management, Inc. and Mizuho Bank, Ltd., two large trading entities that supported the platform, successfully conducted the first trade on TeraExchange's order book — a single trade for a notional amount of $10 million.

259. The trade was to be cleared through the CME's clearinghouse by BNP Paribas Securities Corp., the clearing affiliate of BNPP. Accordingly, BNPP's clearing office was immediately aware of the trade and notified BNPP's trading desk. BNPP's trading desk immediately contacted the parties to the trade and threatened them with a loss of access to clearing and other banking services, including execution services in other asset classes and access to general market research, if they continued to trade on TeraExchange.

260. The following business day, BNPP, Citi, JP Morgan, and UBS, acting in coordination, each separately contacted TeraExchange demanding to "audit" TeraExchange's rulebook and stating they would not help clear any further trades until the audit was complete. As noted, the CFTC had already reviewed and commented on TeraExchange's rulebook prior to granting it SEF registration. The CFTC did not require any changes to the rulebook prior to its certifications, meaning it effectively approved the document. Thus, these banks knew they had no genuine need to "audit" TeraExchange's rulebook. Their real goal was to prevent the buy side from trading on TeraExchange.

261. At around the same time, Bank of America's FCM threatened buy-side clients with inflated clearing fees and liquidity boycotts if they made markets or traded on TeraExchange's all-to-all trading platforms. Because the Dealer Defendants' FCMs jointly refuse to clear trades conducted on TeraExchange' platforms, no further trades have taken place on those platforms.

262. As it was attempting to attract dealers and the buy side to its platforms, TeraExchange simultaneously employed an additional strategy to build out its platform, but the Dealer Defendants shut down this strategy as well. Under Dodd-Frank, certain IRS trades involving U.S. entities, whether trading domestically or internationally, must be executed

through a SEF. TeraExchange recognized that European IDBs servicing U.S. banks (either an international branch or guaranteed affiliate) must therefore either become a SEF or execute their trades through a SEF.

263. TeraExchange thus saw an opportunity to approach second-tier IDBs who were looking to grow their business and offering them fully-compliant execution and reporting services for their swap trades. Execution of the IDBs' dealer transactions on TeraExchange's SEF provided the benefit of open access, pre-trade credit checks, execution on a regulated platform, central clearing, and swap data repository reporting. It also avoided the need for the IDBs to build and operate proprietary SEFs, which many of the second-tier IDBs were in no position to do.

264. Between December 2013 and September 2014, multiple IDBs responded favorably to the opportunity provided by TeraExchange and executed agreements with TeraExchange. These included some of Europe's most diverse and active IDBs, such as OTCex, RP Martin, Cloud9, GMG Brokers, Sunrise Brokers, LLC, and Continental Capital Markets. If TeraExchange had been able to move forward with these IDBs, it would have been able to grow its business and eventually expand the IDB offerings to the buy side.

265. But the Dealer Defendants learned of this effort, and they shut it down. In strikingly parallel fashion, in early- to mid-2014, the Dealer Defendants informed these IDBs they would not accept any trades reported or executed on TeraExchange. In February 2014, for example, Laura Martin of Citi wrote OTCex claiming that "per internal policy," Citi would not allow OTCex to use TeraExchange, because "Citi is not currently signed onto the TeraSEF Rulebook." After OTCex pointed out that Citi did not need to join TeraExchange or sign onto its rulebook, Ms. Martin responded by saying that Citi's refusal to allow IDBs to execute trades on

TeraExchange was "more of an internal policy rather than a regulatory one," confirming that there was no valid basis for Citi's refusal. She then informed OTCex that co-conspirator ICAP was Citi's "preferred solution."

266. Other Dealer Defendants took similar (and similarly pretextual) positions. BNPP reached out to Annaly Capital Management in mid-2014 and asked Annaly to "abstain from executing on Tera while they resolve some operational issues on their end related to trades executed on Tera." There were no operational issues, and BNPP provided no more information. Similarly, the CEO of ED&F Man, one of the second-tier IDBs, informed TeraExchange that the major swap dealers would not allow him to sign up with the program.

267. As a whole, the Dealer Defendants uniformly took the position they would not allow IDBs to book or execute trades on TeraExchange. The reasons for this became explicit when certain Dealer Defendants told the IDBs and even TeraExchange personnel directly that they saw TeraExchange's program as a "Trojan Horse." This terminology, which multiple Dealer Defendants used in separate conversations, reflects the fact that the Dealer Defendants saw TeraExchange as a threat to their privileged position in the marketplace. They were determined to stop it and, through their aggressive joint actions, have effectively done so.

268. Despite the Dealer Defendants' actions, second-tier IDBs have continued to express interest in processing trades through TeraExchange's order book. But, to date, no IDB has been able to process a trade through TeraExchange's order book, and some have since gone out of business.

269. Under the crushing weight of the Dealer Defendants' boycott, TeraExchange has shifted its focus. It brought to market the first regulated Bitcoin derivative listed for trading and

continues to this day bringing regulated services and award-winning technology to market participants.

2. *The Dealer Defendants Boycott Javelin*

270. Javelin was formed in 2009 by a group of industry professionals who sought to capitalize on buy-side demand for all-to-all trading. Javelin developed two all-to-all IRS trading platforms: an anonymous RFQ platform and an anonymous order book. Javelin planned for both platforms "to offer firm pricing for swaps as opposed to the indicative quotes that are offered on most other platforms."[161] This would have been a major step forward for the buy side, granting them access to anonymous all-to-all trading platforms.

271. In 2011, Javelin began soliciting support for its platforms by demonstrating their utility to many buy-side entities and dealers, including Dealer Defendants such as BNPP, Deutsche Bank, Goldman Sachs, JP Morgan, and RBS.[162] Javelin offered these Dealer Defendants attractive terms, including the opportunity to receive a portion of Javelin's brokerage fees if they traded on the platform. Javelin began conducting test trades on its order book in December 2011, successfully executing and clearing trades in a nearly instantaneous manner, which was appealing to buy-side entities that wanted to execute trades more quickly.

272. Most of the Dealer Defendants refused outright to support Javelin. As noted above, they had agreed with each other only to support platforms they could control. To maintain their boycott, the Dealer Defendants carefully coordinated their dealings with Javelin. At times, certain dealer personnel (including Dexter Senft of Morgan Stanley) even expressly asked for modifications to provisions of Javelin's standard non-disclosure agreement that

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[161] Kentz, *supra* note 148.

[162] Many of these meetings were held at Javelin's offices in New York City.

allowed one Dealer Defendants to discuss Javelin with other Dealer Defendants. Unaware that the Dealer Defendants were operating as an unlawful cartel, Javelin agreed to these modifications.

273. On September 19, 2013, the CFTC granted temporary registration to Javelin as a SEF.[163] By this time, Javelin's platforms were fully operational and nearing launch. And by late 2013, Javelin had signed up seven second-tier dealers to trade on the platform. The Dealer Defendants, however, became increasingly concerned as Javelin prepared to go live. They recognized that, if Javelin successfully launched an anonymous, all-to-all trading platform for IRS, it would attract liquidity, bringing price transparency and competition to the market, which would imperil their privileged status as market makers in a bifurcated market, as well as the supracompetitive bid/ask spreads they extracted from the buy side.

274. Between 2013 and 2015, Javelin met with senior employees at each of the Dealer Defendants on numerous occasions, in hopes of gaining their support for the platforms. But, with the exception of RBS (and then only for a short period of time), the Dealer Defendants collectively refused to trade on or provide liquidity to Javelin. In those instances where a Dealer Defendant did not flat-out refuse to use the platforms, it instead provided an endless stream of pretextual excuses for refusing to trade on Javelin's platforms. One Dealer Defendant, for instance, stated it needed to review Javelin's internal documentation, but it never actually performed the review. One Javelin employee was informed by an acquaintance who worked for a Dealer Defendant that he should "look for a new job."

[163] By 2013, Javelin's platform included a live credit check system, called the Credit Limit Management System ("CLMS"). CLMS permitted FCMs to push pre-trade credit limits for their customers to Javelin, which Javelin could check to confirm whether a customer had sufficient credit with their FCM to execute and clear a trade on Javelin's platform. Javelin also connected to credit hubs, such as Traiana, Inc., to conduct pre-trade credit checks.

275. While some of the Dealer Defendants, including JP Morgan and RBS, were willing to test the platform's trading operability, others, such as Deutsche Bank and Goldman Sachs, flatly refused to engage. And, although JP Morgan initially proclaimed interest in trading on Javelin, it was merely a ruse in order to collect information on its trading platforms. Simon Maisey, who was actively involved in the conspiracy as a board member of Tradeweb Markets Board of Directors and then as a Managing Director at Tradeweb itself, was JP Morgan's contact for the "negotiation," entertaining multiple meetings with Javelin personnel and burdening them with numerous pretextual requests for information. When Mr. Maisey was eventually pressed on whether JP Morgan had an interest in trading on the platform, he acknowledged that it did not.

276. In September 2013, Javelin conducted a series of mock trading sessions to showcase its all-to-all anonymous trading platforms to dealers and buy-side entities. Numerous buy-side entities and second-tier dealers signed on for the sessions, including AIG Financial Products, Alphadyne Asset Management, Argonaut Capital, Babson Capital, Brevan Howard, CIBC, CRT Capital, ETrade, FHLB Boston, Flagstar, FTN Financial, Mariner Investment Group, Millennium Management, Mitsubishi, Nationwide, NISA Investment Advisors, Pierpont Securities, and Suntrust.

277. In advance of the trading sessions, Javelin asked many of the Dealer Defendants' FCMs to conduct pre-trade credit checks for their buy-side customers to participate in the sessions. As was the case with TeraExchange, however, the Dealer Defendants' FCMs largely refused to provide pre-trade credit checks or push credit to the platform, effectively preventing the buy side from using Javelin's platforms. JP Morgan, for instance, used the pre-trade credit checks requirement to hinder customers, including Mitsubishi UFJ Financial Group ("Mitsubishi") and Natixis Global Asset Management, from trading on the platform.

278. Javelin personnel reached out to Morgan Stanley's FCM on August 19, 2013, inquiring about Morgan Stanley's FCM clearing trades for its clients executed on Javelin. Erin Johnson, Vice President of Derivatives Clearing for Morgan Stanley, responded that the FCM would not connect to Javelin until one of its clients asked to trade on the platform. On September 23, 2013, Javelin personnel responded that a number of Morgan Stanley's FCM clients — Nationwide Insurance, Annaly Capital, Nuveen Investments, Piper Jaffray, Hopwood Lane, and Huntington Bank — wanted to trade on the Javelin but could not do so unless Morgan Stanley connected to the platform. Ms. Johnson did not respond to the request.

279. Concerned that they were being stonewalled, Javelin personnel changed tactics and offered to demonstrate the platform's functionality for Johnson. Ms. Johnson agreed to view the demonstration but repeatedly delayed the meeting until January 2014. Despite a successful demonstration and stated interest in Javelin from its clients, Morgan Stanley refused to connect to Javelin for clearing purposes. And it still refuses to clear trades executed on the platform for its clients.

280. Javelin got a similar runaround from other Dealer Defendants. On September 9, 2013, Javelin personnel met with Mark Millindorf, a Vice President at Deutsche Bank, about connecting to Deutsche Bank's FCM for clearing. Mr. Millindorf stated that the legal department needed to approve Javelin's rulebook. Despite such assurances, Javelin heard nothing from Deutsche Bank for months. Following multiple inquiries by Javelin personnel, Mr. Millindorf finally responded in January 2014 that the legal department still had not reviewed the rulebook. By that time, seven buy-side entities that cleared trades via Deutsche Bank's FCM — FHLB Boston, NAB Asset Management, Blenheim Capital, Capstone Capital, Alphadyne Asset

Management, Wellington Management, and Canyon Partners — were waiting to trade on Javelin but could not do so because of Deutsche Bank's refusal to connect its FCM to the platform.

281. Deutsche Bank's FCM utilized Traiana, Inc. as a credit hub to connect to various trading platforms. Thus, to try to expedite Deustche Bank's approval, Javelin tested its connection to Traiana, Inc. on January 27, 2014, and it "successfully passed certification." Javelin immediately passed this information along to Mr. Millindorf, who described the development as "[g]reat." The following day, Javelin personnel asked to test Javelin's connection to Deutsche Bank, but Mr. Millindorf threw up a new roadblock, stating that "we don't have any capacity to do this testing at the moment." This was despite the fact that, as he later described it, testing the connection would be simple because "basically all we would do is put a limit on the Traiana UAT and watch orders come in and see it go down . . . ."

282. Javelin thereafter followed up repeatedly with Mr. Millindorf about testing and the legal review. But he merely replied each time that the review was still ongoing. On March 3, 2014, Millindorf stated that the review "should be done by legal today." He added that testing the connection to Javelin via Traiana would be simple. But when Javelin personnel contacted Christine Burns of Deutsche Bank about testing the connection, she bluntly responded that Deutsche Bank was "not ready to conduct any testing at this time."

283. Javelin followed up repeatedly with Mr. Millindorf over the next two weeks concerning the state of the legal review, receiving only radio silence until March 14, 2014, when he stated that the review was still not done. Javelin responded that several buy-side clients were ready to trade on Javelin but needed to be able to clear through Deutsche Bank's FCM. Mr. Millindorf responded that as soon as the legal department approved the rulebook, Deutsche Bank could connect to Javelin "at a flip of a switch."

284. On March 26, 2014, Mr. Millindorf stated that the legal team had approved the connection to Javelin and he just needed to "run it through our committees this week for approval." Javelin personnel reached out to Ms. Burns later that same day about testing the connection, but she stated that the legal review was *not* complete and would take another week. Consistent with the pattern of delay, no approval was forthcoming over the following weeks. Deutsche Bank finally tested its connection to Javelin on April 30, 2014, and Ms. Burns stated that "[t]he Traiana pre-trade execution screening check was successful."

285. On May 15, 2014, however, Paul Tartanella of Blenheim Capital Management tried to arrange trades on Javelin with Deutsche Bank serving as its FCM, only to learn that Deutsche Bank still had not approved trading on Javelin. A Javelin executive contacted Mr. Millindorf later that same day to investigate the problem, who responded that, despite his prior assurances, the review by the legal department was still not complete, and in fact that "[a]s of right now our legal team is busy elsewhere (limited resources, various other things in the hopper) — right now it is on hold." Mr. Millindorf's excuse, which was directly contradictory to his prior representations, was plainly a pretextual excuse for Deutsche Bank's refusal to clear trades across Javelin.

286. By this point, it was becoming clear that Deutsche Bank would, under no circumstances, clear trades executed on Javelin. Javelin personnel again inquired as to the status of the review on December 15, 2014 — approximately fifteen months after Mr. Millindorf promised a quick review — and Mr. Millindorf responded stating: "No, no movement at the moment . . . . Will certainly let you know. Right now we are on a status quo." Deutsche Bank's legal department has never completed this supposed review of Javelin, and thus it has never cleared trades for its clients on the platform.

287. Goldman Sachs also refused to provide clearing services. Javelin met with Cassandra Tok (Head of Futures and OTC Clearing Sales) and Tony Smith (Vice President, Network Engineering) from Goldman Sachs & Co. in New York City, on September 24, 2013. At the meeting, Ms. Tok and Mr. Smith were careful not to state outright that Goldman Sachs would not support Javelin, but they demonstrated hostility to Javelin operating an order book open to the buy side. They also asked for the names of buy-side entities that had signed up to use the platform.

288. On September 30, 2013, Javelin employees met with Tony Smith of Goldman Sachs and confronted him about Goldman Sachs' refusal to clear trades executed on Javelin. Mr. Smith responded that under no circumstances would Goldman Sachs deal with Javelin. He stated that, if Goldman Sachs was somehow forced to clear trades executed on Javelin, it would simply set the credit limits for all of its customers who attempted to trade on Javelin at "zero," thereby preventing the clearing of any trades executed on its platforms. In other words, Goldman Sachs' FCM was willing to forego clearing revenues and damage customer relationships in order to shut Javelin out of the market.

289. Some Dealer Defendants actively pressured their customers not to trade on Javelin. In August 2013, as part of a purported "survey" he was taking about SEF activity, Dexter Senft asked Javelin personnel for a list of all buy-side customers that had expressed interest in Javelin, as well as the contact person for each firm. On August 6, 2013, unaware of Mr. Senft's nefarious intentions, Javelin personnel provided a list of eighty buy-side firms that were in various stages of engagement with Javelin, along with the contact person for each firm. Mr. Senft responded: "This list is exactly what I needed." Shortly thereafter, Mr. Senft

distributed this list to other Dealer Defendants so they would know which of their buy-side customers were considering or actually using the Javelin platform.

290. For example, as of August 22, 2013, NISA Investment Advisors LLC ("NISA"), a large buy-side firm, was eager to trade on Javelin. But when Goldman Sachs & Co., NISA's FCM, learned of this from Mr. Senft, Cassandra Tok of Goldman Sachs called John Choe of NISA and informed him that, if NISA traded on Javelin, Goldman Sachs would withdraw all clearing services for the buy-side entity in any trading venue. Ms. Tok later told Javelin that she and Mr. Choe jointly decided that NISA would no longer utilize Javelin's platforms. Mr. Choe, however, later informed Javelin officials that Goldman Sachs had forced him to stop trading on the platform.

291. Similarly, buy-side entity Citadel Fixed Income Master Fund executed a number of trades on Javelin's platforms between January 7, 2014 and April 4, 2014. It suddenly stopped trading on the platform, however, after its Chief Operating Officer received calls from the Dealer Defendants telling him not to use Javelin's platforms.

292. Despite these formidable obstacles, Javelin was able to get some trading volume from its participants. By late 2014, as a result of its persistence and the promise of its platform, Javelin had signed up approximately eighty entities to trade on the all-to-all platforms, including Annaly, AQR Capital Management, Blackwell Partners, Carlson Capital, Citadel, the Duke Endowment, Duke University LTP, Eaton Vance, Flagstar, ING Group, the John D. and Catherine T. MacArthur Foundation, Lloyds Bank, Mitsubishi, Mizuho Securities, the National Bank of Canada, Natixis Global Asset Management, PIMCO, Scotiabank, and Suntrust. As a result of the Dealer Defendants' refusal to allow Javelin-based trades to clear through their

FCMs and the threats from the Dealer Defendants described above, however, few were able to make any trades.

293. Mitsubishi repeatedly attempted to trade on Javelin for approximately nine months in 2014, but ultimately ceased all activity. When asked why they had stopped trading on Javelin, Mitsubishi traders informed Javelin that they had received "too much static" from JP Morgan, their FCM, for doing so.

294. In October 2014, buy-side interest in Javelin and other all-to-all trading platforms collapsed as buy-side investors grew concerned the Dealer Defendants would retaliate against them for trading on the platform. Many buy-side firms initially explored all-to-all trading through aggregator platforms that streamed quotes from multiple SEFs, including IDBs and Javelin.[164] The buy side found aggregators useful because they provided a consolidated view of the market and access to greater all-to-all trading liquidity. Use of aggregators steeply declined, however, after Tradition, a dealer-friendly IDB, contacted Mitsubishi, a buy-side entity, to complain about Mitsubishi's use of Tradition's order book, Trad-X, after an aggregator had routed a Mitsubishi trade to that platform.

295. The Dealer Defendants also continued to apply pressure directly on Javelin. In October 2014, a Javelin executive met with Sagar Gohel, a Deutsche Bank executive, outside of Deutsche Bank's New York City office to discuss the platform. Mr. Gohel told the Javelin official that, if he continued to push for Javelin's success, he would "never work" on Wall Street again.

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[164] For example, the buy side sometimes used NEO, an aggregator platform owned by UBS. NEO was walled off from, and did not communicate with, UBS's trading desks or its strategic investment group. Like other aggregators, NEO did not provide liquidity for IRS trading.

296. The Dealer Defendants clearly coordinated their joint opposition to Javelin. Javelin employees had numerous conversations with the Dealer Defendants (*i.e.*, Bank of America, Barclays, BNPP, Citi, Deutsche Bank, Goldman Sachs, JP Morgan, Morgan Stanley, and UBS) from August 2013 to April 2015 (and RBS beginning in 2015), where the Dealer Defendants' representatives proffered nearly identical excuses for their refusal to deal, pointing to a supposed lack of buy-side participation on Javelin as the reason for their actions.

297. In fact, these excuses were pretextual, given that the Dealer Defendants had gone to great lengths to ensure that buy-side firms did not trade on Javelin. As noted above, Javelin had committed liquidity providers by this point, guaranteeing the Dealer Defendants would have counterparties with which to trade, and frequently featured IRS prices that were competitive with or better than rival platforms like Tradeweb. The real reason for the Dealer Defendants' collective refusal to deal was their unlawful agreement to boycott any platform that threatened to bring all-to-all trading of IRS to the buy side.

298. As noted, RBS was initially a liquidity provider on Javelin, viewing its participation on Javelin's platform as a way to ensure it had sufficient control over the direction of Javelin and could prevent management from disrupting the bifurcated market structure.[165] RBS demanded assurances that it would have a significant degree of control in the operation and strategy of the platform.

[165] The Dealer Defendants were fully aware that the nominal participation of a small number of them on any one platform would not undermine their conspiracy and would instead provide them an opportunity to monitor the actions of the platforms they viewed as threats. RBS ensured that its limited participation on Javelin did not pose a threat to Defendants' conspiracy. Although RBS did briefly provide liquidity to Javelin, it did not do so in a meaningful way. Instead, RBS primarily streamed prices at unfavorable bid/ask spreads that resulted in no trades with buy-side customers.

299. On October 18, 2013, Javelin's CEO, James Cawley, filed the SEF industry's first Made-Available-to-Trade ("MAT") application to the CFTC that, if granted, would have mandated a wide range of cleared IRS to be executed on SEFs. Javelin's MAT application was reasonable and feasible, and was based on months of careful planning and analysis—each of the products included in the MAT application were capable of all-to-all anonymous trading.

300. Nonetheless, when news of Javelin's MAT submission became known, Patrick Wegner, a senior IRS trader at RBS, called the CEO of Javelin to complain about Javelin's MAT submission, despite the fact it would have required more IRS volume to trade on Javelin's platform, benefitting RBS as one of Javelin's premier market makers. RBS then immediately withdrew all of its liquidity on the platform.

301. In the days that followed, RBS placed enormous pressure on Javelin to retract its MAT submission. RBS enlisted Dawn Newsome, Adam Lister, Rich Volpe, Patrick Wegner, Darren Shames, and its legal counsel to pressure James Cawley to retract Javelin's MAT application. On October 30, less than two weeks later, Javelin filed a revised MAT submission, significantly narrowing the range of IRS instruments that would be mandated to trade on a SEF.

302. Javelin continued to receive pressure from RBS and other Dealer Defendants to reduce the scope of its MAT application further. RBS personnel demanded to review the revised application prior to filing. Since the Dealer Defendants control almost all of the liquidity in the IRS market, they were able to squash Javelin's attempt at offering a wider range of IRS products. RBS only began providing Javelin with liquidity again after it revised its MAT submission. One employee of the Dealer Defendants told a Javelin representative that he "would never work on Wall Street again" as a result of Javelin's MAT application.

303. Even after Javelin filed its revised MAT application, however, there remained buy-side demand for all-to-all anonymous IRS trading platforms (both RFQ and CLOB) such as those offered by Javelin. In November 2013, Javelin met with several large buy-side firms, including Citadel, regarding the filing of another MAT application that was narrower than Javelin's initial filing but broader than its revised application. At the meeting, many buy-side firms explained that they would support a "phased-in approach" for certain swaps not included in Javelin's revised application—including IRS with non-standard tenors (such as one year and one day, rather than one year), basis swaps, overnight index swaps, forward rate agreements, and certain "package" transactions. The buy-side firms believed these products were sufficiently liquid to trade on an all-to-all anonymous RFQ platform, or even on a CLOB. They also thought that a "phased in" approach might appease the Dealer Defendants.

304. They were wrong. Even a "phased in" approach for additional IRS was a non-starter for the Dealer Defendants. When Javelin sent a document outlining the "phased-in approach" to RBS personnel in late November, 2013, they reacted with hostility.

305. From that point on, RBS distanced itself from Javelin. Javelin was told to remove RBS from all of its marketing materials. James Cawley was told in no uncertain terms by Rich Volpe, Head of IRS Trading at RBS, that Javelin was to never again mention to anyone that RBS was a market maker on its platform. Patrick Wegner, the senior trader responsible for providing electronic IRS markets on Javelin, began widening the bid/ask spread he would stream to Javelin. RBS traders would also not respond to inquiries from the Javelin voice-trading desk, even if it meant that RBS would be able to enter into an IRS transaction at a profitable level. Eventually, on April 26, 2015, RBS withdrew as a participant on Javelin's platform.

306. Other Dealer Defendants acted similarly. At an October 2014 meeting with Barclays, a Javelin representative was told that the Dealer Defendants had already "boxed out" Javelin's CLOB platform entirely, and that Javelin would never get away with filing another, broader MAT application. Barclays personnel expressly warned against any further MAT applications, and even raised the prospect of physical intimidation.

307. As a result of the Dealer Defendants' boycott, Javelin today effectively has no revenues and facilitates no IRS trading.[166] Despite years of development and millions of dollars in investment capital, fewer than two hundred trades have been executed on Javelin since its launch. Absent the Dealer Defendants' anticompetitive boycott, buy-side firms would have traded amongst themselves and with dealers on Javelin's platform, leading to greater competition in the IRS market and tighter bid/ask spreads, which would have benefited Plaintiffs and the Class.

3. The Dealer Defendants Boycott TrueEX

308. In 2013, TrueEX sought to bring to market a SEF offering two IRS trading platforms: (i) an anonymous all-to-all order book and (ii) a non-anonymous, dealer-to-client RFQ platform. TrueEX was founded by Sunil Hirani, who had previously started and operated a successful electronic trading platform for CDS for an IDB called Creditex.

309. TrueEX was the "first swaps exchange to be approved by the [CFTC]."[167] Its order book offered "trading features, such as anonymous trading, that regulators and traders at funds say will encourage smaller banks and other players, such as hedge funds, to enter the

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[166] *See* Mike Kentz, *Cawley Exit Signals SEF Troubles*, INT'L FIN. REV. (May 10, 2014), http://www.ifre.com/cawley-exit-signals-sef-struggles/21144521.article.

[167] Glen Fest, *TrueEX Takes Early Lead in Building Rate Swaps Exchange*, AM. BANKER (Apr. 1, 2013), http://www.americanbanker.com/magazine/123_4/Swaps-Sequel-10574731.html.

market as dealers[, which] will help increase competition, reduce prices for customers, and decrease risk in derivatives markets."[168] TrueEX "took a very old way of executing and brought it into the 21st century," which allows a trader to "execute a portfolio of swaps electronically in a very efficient manner."[169] The platform offers cutting-edge trading technology and attractive financial terms to attract participation. Its transaction fees, for example, are only a fraction of those charged by Tradeweb.

310. With these attractive features and Mr. Hirani's background in electronic trading, TrueEX was ready and able to become a successful all-to-all trading platform for IRS. Mr. Hirani publicly stated that the platform had signed up sixty-two buy-side participants, noting that "[c]learly the buy[-]side demand is there."[170]

311. The Dealer Defendants, however, boycotted TrueEX by refusing to trade IRS with buy-side investors on the TrueEX order book. Were a buy-side investor to execute a trade on the order book, it would have to clear the trade through one of the Dealer Defendants' FCMs, which would alert them of the transgression. The Dealer Defendants would then retaliate against the buy side for accessing the "forbidden" platform.

312. TrueEX's order book also sees little to no *dealer-to-dealer* trading, meaning the platform effectively sees no trading volumes. As one financial publication reported: "Many of the top derivatives dealers, including Goldman Sachs, Deutsche Bank, Citigroup, Barclays, Bank

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168 Levinson, *supra* note 7.

169 Aaron Timms, *TrueEx Builds Bridges in the New World of Swaps*, INSTITUTIONAL INV'R. (July 21, 2015), http://www.institutionalinvestor.com/article/3472545/asset-management-regulation/trueex-builds-bridges-in-the-new-world-of-swaps.html#.Vk5RPk3ltaQ.

170 Levinson, *supra* note 7.

of America Corp, and Morgan Stanley, have declined to use [T]rueEX."[171] This refusal makes no sense, except as part of Defendants' conspiracy. As noted, TrueEX offers better financial terms than other platforms on which the Dealer Defendants trade, such as Tradeweb.

313. The Dealer Defendants do provide some limited liquidity to TrueEX's non-anonymous, dealer-to-client RFQ platform, which uses protocols that effectively replicate OTC trading.[172] To ensure the platform does not reach critical trading mass, however, the Dealer Defendants collectively refuse to trade plain vanilla swaps — which are the swaps that trade in the highest volumes across the market — with the buy side on TrueEX. A study by Clarus Financial Technology ("Clarus") found that in 2015 TrueEX's platforms accounted for ***0%*** of plain vanilla swaps trading.[173]

314. Instead, the Dealer Defendants will only transact with the buy side on TrueEX's platform in bespoke, one-off swaps, which trade in significantly smaller volumes. Thus, if, for example, a buy-side entity asks JP Morgan to do a plain vanilla swap, JP Morgan is all too happy to execute the trade on Tradeweb's RFQ, but it will not execute the trade on TrueEX's RFQ — despite the fact that TrueEX provides better technology with lower fees. There is no legitimate explanation for the behavior.

315. The Dealer Defendants, through their conspiracy, otherwise agree to conduct only "termination" and "compression" transactions on the platform. Termination transactions are merely unwinds of already existing trades, and compression trades — which merely consolidate

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[171] *Id.*

[172] *See* Ivy Schmerken, *Start-Up SEF Taking the Fight to Incumbents*, TABB FORUM (Feb. 26, 2015), http://tabbforum.com/opinions/start-up-sef-taking-the-fight-to-incumbents?print_preview=true&single=true.

[173] Amir Khwaja, *2015 SEF Market Share Statistics*, CLARUS FINANCIAL TECHNOLOGY (Jan. 26, 2016), https://www.clarusft.com/2015-sef-market-share-statistics/.

multiple offsetting trades into one position — are done mainly to reduce regulatory capital and margin requirements associated with offsetting swap positions. The Dealer Defendants recognize that TrueEX's sophisticated platform is particularly adept to handle these transactions, and no dealer-friendly platform (*i.e.*, Tradeweb, Bloomberg, or an IDB) already provided the service; thus they are all too happy to enjoy the benefit.

316. As a result of their conduct, the Dealer Defendants have successfully neutralized TrueEX from successfully bringing an all-to-all trading platform to market and becoming a competitive threat.

4. <u>The Dealer Defendants' Boycotts Chill Market Progress</u>

317. Beyond their immediate effects on TeraExchange, Javelin, and TrueEx, the Dealer Defendants' boycotts also sent a clear message to the industry that *any* platform attempting to offer the buy-side access to an anonymous all-to-all trading platform would be collectively punished and strangled until it failed.

318. As Angela Patel, Trading Operations Manager at Putnam Investments, a buy-side entity, stated during a recent SEFCON panel discussion: "No one wants to do anything because no one wants to be the next person to piss everyone off." SEFs are afraid even to apply to make IRS "available to trade" (and buy-side firms are afraid to trade IRS on all-to-all trading platforms) because of the risk of collective retaliation by the Dealer Defendants.

319. Stephen Berger, Citadel's Director of Government Affairs, similarly noted at SEFCON that a "market discipline element . . . is there in the background." Certain employees of the Dealer Defendants, such as Michael Dawley, Managing Director and Co-Head of Futures and Derivatives Clearing Services at Goldman Sachs (head of the FCM), enforce market discipline by making direct threats to SEFs. In 2014, for example, at least one IDB SEF received

a threatening phone call from Mr. Dawley after the SEF hired an employee who was perceived as hostile to the Dealer Defendants.

320. As a result, the Dealer Defendants have effectively deterred any entities from offering anonymous all-to-all trading to the buy side.

H. <u>The Dealer Defendants Collectively Insist on "Name Give-Up" to Deter Buy-Side Participation on All-to-All Trading Platforms</u>

321. "Name give-up" refers to the requirement that the names of each counterparty to a trade be disclosed to the other, which prevents trades from being done anonymously. In the IRS market, name give-up is a relic of the early days of the OTC market, when it was necessary to know whether the trade counterparty was creditworthy. There is no legitimate justification for requiring that name give-up occur when IRS are centrally cleared, as most are today. Neutral commentators, regulators, and even the Dealer Defendants' employees agree. Declan Graham of UBS admitted during a panel discussion at SEFCON on October 26, 2015, for example, that name give-up on order books is pointless for cleared swaps. There is no need to know the identity of your trading counterparty when you are effectively trading with a clearinghouse.

322. Nevertheless, name give-up is pervasive in the IRS market today because the Dealer Defendants use it as a tool to police their conspiracy. Defendants have conspired to ensure that virtually every single IRS trade takes place on a platform requiring name give-up. The volumes of IRS traded on SEFs that allow anonymous trading "have been underwhelming to the point of invisibility."[174] This is despite the fact that, as George Harrington, CFA, Global Head of Fixed Income, Currency, and Commodity Execution at Bloomberg LP acknowledged

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[174] Timms, *supra* note 169.

during a panel discussion at SEFCON on October 26, 2015, there is "a good deal of demand for anonymous trading" of IRS.

323. This historical relic continues to be prevalent in the IRS market because the Dealer Defendants have collectively insisted that IRS trading platforms utilize name give-up if the platforms want to avoid being boycotted or punished. As noted, the Dealer Defendants have insisted on this requirement for one simple reason: to police their conspiracy. Name give-up allows the Dealer Defendants to know who is trading on what platform. It allows them to ensure that any buy-side entity trying to trade where the Dealer Defendants do not want it trading (*e.g.*, a buy-side investor trading on an IDB) can be identified and punished. And it allows them to identify and punish any platforms not abiding by the Dealer Defendants' rules (*e.g.*, any IDB that would dare allow a buy-side investor to trade on its platform).

324. As observed in a recent policy paper: "In practice, in a SEF environment, this unnecessary disclosure of swap counterparties only serves to inform the dealers of the non-dealer firms [or] banks that are attempting to trade on their platforms, and invit[es] retaliation."[175] For instance, if a transaction on an all-to-all platform with name give-up closes with a dealer on one side, that dealer is able immediately to see if a buy-side participant (a) has been allowed access to the platform, and (b) had the audacity to try to capitalize on that access by entering into a transaction over the platform rather than in the dealer-to-client OTC (or, more recently, RFQ) systems.

325. Although central clearing eliminated all legitimate reasons for requiring name give-up, the Dealer Defendants recognized its importance in maintaining market bifurcation. Brad Levy of Goldman Sachs, Stephen Wolff of Deutsche Bank, and Dexter Senft of Barclays

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[175] Kelleher, *supra* note 62 at 12.

and Morgan Stanley, among others, conspired to keep the practice in place by making the Dealer Defendants' provision of liquidity to a trading platform conditional on the use of the practice. UBS has publicly criticized name give-up and hoped that the practice would end due its belief that UBS would be able to gain market share at the expense of its competitors if the IRS market moved to an all-to-all anonymous model. Nonetheless, UBS did not break ranks with the other dealers and support platforms such as Javelin, Tera, and trueEX, and continues to trade on IDBs that use name give-up, likely due to concerns that it will be put in the "penalty box" if it steps out of line.

326. Pursuant to their agreement, the Dealer Defendants have collectively boycotted any trading platform that refused to include name give-up as a feature, including TeraExchange, Javelin, and TrueEX. As a former IDB employee explained, when the IDB attempted to bring buy-side entities onto its trading platform in a different asset class, the Dealer Defendants discovered this through name give-up and responded with collective threats "to simply move their business to another broker."[176] He stated that, as a result, the IDB relented, limiting its platform to dealers. The employee added: "We didn't have much choice but to shut it down."[177] When asked during a recent panel discussion at SEFCON why the manner in which buy-side firms trade has not evolved in the wake of Dodd-Frank, Scott Fitzpatrick, the CEO of Tradition SEF (an IDB), bluntly explained that SEFs were not willing to stand up to the dealers and go anonymous because of the risk "of the loss of liquidity."

327. The Dealer Defendants ensure that name give-up persists by requiring that IDBs use a service known as MarkitWIRE, which is operated by MarkitSERV. MarkitSERV is

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[176] Smith, *supra* note 127.

[177] *Id.*

dominated by the Dealer Defendants. In fact, it is dominated by some of the principal architects of the Dealer Defendants' conspiracy: Brad Levy (formerly of Goldman Sachs' PSI group) is currently the CEO of MarkitSERV, and Stephen Wolff (formerly the Head of Strategic Investments and Head of Fixed Income E-Commerce at Deutsche Bank) is the former Head of Group Corporate Strategy at Markit. MarkitWIRE itself is run by Chip Carver, who previously managed fixed income derivatives trading for Goldman Sachs and was responsible for the Goldman's E-Commerce for global interest rate products.

328. MarkitWIRE is a trade processing service for IRS and other asset classes, which delivers trades to clearinghouses once they have been executed by counterparties. Although IRS platforms could easily employ "straight-through processing" — where a trade is immediately sent to a clearinghouse by a SEF once it is executed — the Dealer Defendants force IDBs to send trades to MarkitWIRE *before* they are cleared.[178] MarkitWIRE then offers the counterparties to an IRS transaction a "last look" at the trade, where they learn each other's identities and have the option to terminate the transaction. This process is inefficient and more cumbersome than exchange trading, and it subjects the parties to unnecessary post-trade name give-up.[179] Javelin's platform, for instance, has the capability to confirm trades and send them to the clearinghouse directly while maintaining full anonymity.

329. The IDBs, Tradeweb, and Bloomberg use MarkitWIRE, and disclose the names of the parties to an IRS transaction post-trade, only because the Dealer Defendants collectively

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[178] *See* Peter Madigan, *CFTC to Clamp Down on Delays in Swap Clearing*, RISK (Aug. 5, 2015), http://www.risk.net/risk-magazine/feature/2420436/cftc-to-clamp-down-on-delays-in-swap-clearing.

[179] *Id.* (quoting a CFTC staffer as stating: "It is not uncommon for it to take more than an hour for counterparties to agree [to] a trade confirmation on affirmation platforms such as Markitwire"). During a recent SEFCON panel discussion, Declan Graham of UBS stated that the lack of straight-through processing delays trade processing and clearing by up to six hours.

insist that they do so. Buy-side firms have complained that this practice "is applied to please dealers and that it discourages non-banks from trading, helping to preserve the traditional market structure in which dealer-to-client and interdealer markets were separate."[180]

330. As a result of collective pressure from the Dealer Defendants, numerous SEFs impose name give-up on their platforms. Today, the largest interdealer SEFs — BGC, DealerWeb, GFI, ICAP, IGDL, Tullet Prebon, and Tradition — all maintain name give-up, thereby effectively preventing buy-side entities from trading on them.[181] These entities recognize the collective power of the Dealer Defendants, and, as an employee of Tradeweb explained, are careful about "not biting the hand that feeds you."[182] When, in February 2013, Tradition launched an IDB order book by the name of "Trad-X," it made sure to include name give-up.

331. The Dealer Defendants also use name give-up to identify and retaliate directly against buy-side investors who seek to trade on platforms that the Dealer Defendants consider to be their own territory. For example, when Mitsubishi, a second-tier dealer (and buy-side entity in the eyes of some Dealer Defendants), attempted to trade IRS on Trad-X, its identity was disclosed and it immediately received a phone call from Tradition SEF at the behest of a Dealer Defendant, demanding to know why the firm had not instead traded directly with the Dealer Defendant. As a U.S.-based hedge fund manager explained, "[e]nding name give-up on broker

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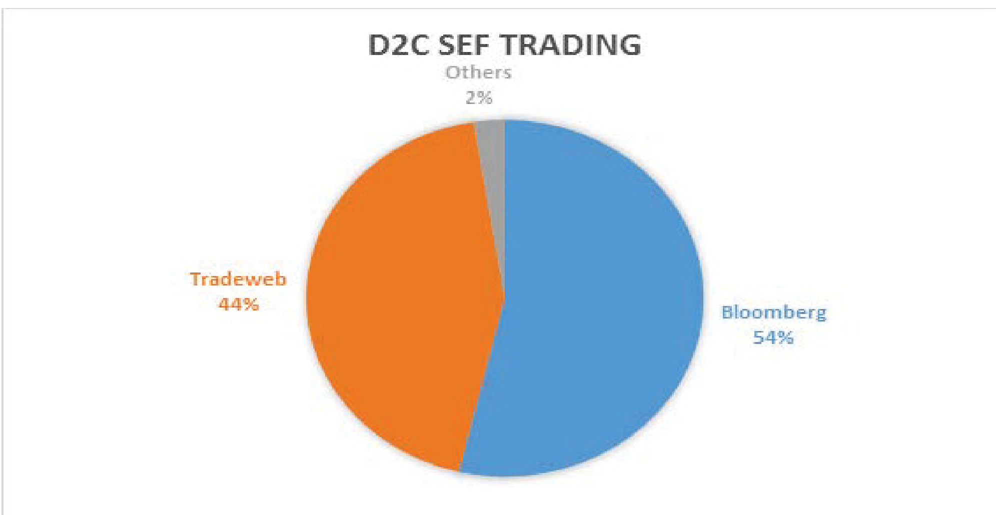
[180] *Id.*

[181] *See* RISK, *Top of the Swaps* (Nov. 2014), https://www.citadelsecurities.com/_files/uploads/sites/2/2014/12/Ken-Griffin-Risk-Magazine-Top-Of-The-Swaps-November-2014.pdf (noting that dealer-run platforms feature name give-up).

[182] Mike Kentz, *New Dawn as Non-Bank Enters Interdealer Order Book*, INT'L FIN. REV. (July 18, 2014), http://www.ifre.com/new-dawn-as-non-bank-enters-interdealer-order-book/21154986.article.

[SEFs would] remove[] the ability for dealers to effect retribution on their clients."[183] So important was name give-up to the continuation of Defendants' consortium efforts that when Goldman Sachs circulated internally an article about the [redacted] wrote: "[redacted]"[184]

332. Market data confirms that all platforms on which IRS are traded in any significant volume impose name give-up. Clarus reports daily trading volume for each SEF, and each SEF is categorized as either a "D2C" (Dealer-to-Client) or "D2D" (Dealer-to-Dealer) SEF.[185] As shown in the figure below, approximately 98% of what Clarus considers Dealer-to-Client trading volume occurs on either Tradeweb and Bloomberg. Trading on these two platforms occurs exclusively through a dealer-to-client RFQ protocol with post-trade "name give-up."[186]



[183] Rennison, *supra* note 6.

[184] GS-IRS-MDL00270057 (ellipsis in original).

[185] The data below comes from Clarus SEFView, *Data for 02/16/2016 – 02/22/2016*.

[186] As noted previously, while both Tradeweb and Bloomberg nominally offer "anonymous" order books, the Dealer Defendants would quickly learn if any buy-side entity attempted to utilize the platforms because the buy-side entities have to clear their trades through the Dealer Defendants' FCMs.

333. While Bloomberg nominally offers an order book,[187] this platform sees virtually no activity in IRS because Bloomberg does not promote it, the Dealer Defendants refuse to trade on it, and buy-side firms fear they will face retaliation from the Dealer Defendants if they use it. As with Tradeweb's order book, the buy-side cannot trade on Bloomberg's all-to-all platform without being found out and punished by the Dealer Defendants when the buy-side entities have to clear their trades through the Dealer Defendants' FCMs.

334. Bloomberg also offers a pricing screen by the name of "All-Q," where dealers can post executable prices for end users. This screen, however, does not allow end users to post prices or trade with each other, and trading via the screen is not anonymous. As a result, Bloomberg constrains end users to the same OTC-like trading available on Tradeweb.

335. The D2D side of the market is also dominated by SEFs that have agreed to play by the Dealer Defendants' rules. *None* of the D2D SEFs allow anonymous trading.[188]

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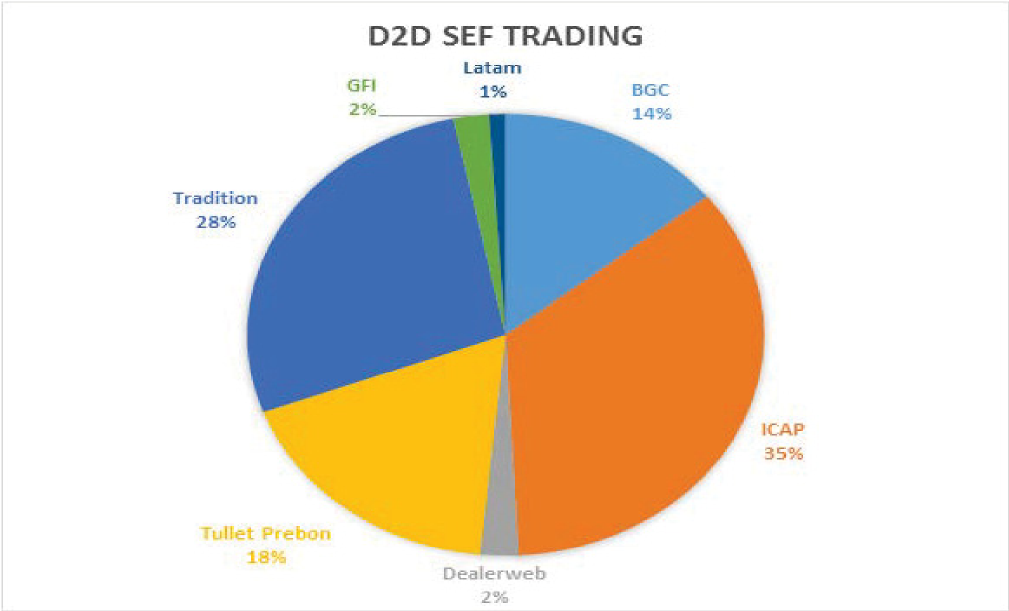
[187] Dodd-Frank requires that all SEFs operate and offer an order book for trading. The law permits SEFs to also offer an RFQ platform in conjunction with the order book. Bloomberg and Tradeweb offer both platforms, but, as a result of Defendants' conspiracy, the buy side effectively only has access to the RFQ platforms. In addition, both Bloomberg and Tradeweb limit their RFQ platforms to dealer-to-client trading functionality, meaning that end users cannot trade with each other on these platforms.

[188] This chart shows that the Dealer Defendants have maintained the market share of Dealerweb, the interdealer SEF owned and operated by Tradeweb, at a very low level — merely 2%. This reflects the fact that the Dealer Defendants are — jointly — rewarding the IDBs for keeping the buy side off their platforms. At the same time, the Dealer Defendants maintain Dealerweb as a nascent threat to those IDBs. The IDBs know that, at any time, the Dealer Defendants could, in lockstep, move their liquidity to Dealerweb, as they had done in the mortgage bond market — the event that led to the détente between the Dealer Defendants and ICAP. Dealerweb poses significant operational costs to Tradeweb, and the minimal trading on the platform means that Tradeweb (and thus the Dealer Defendants) is operating the platform at a significant loss. They are only willing to suffer these losses because Dealerweb serves an important role in their overall conspiracy.



336. As this data shows, there is virtually no IRS trading today that is anonymous. This alone is powerful evidence of Defendants' collusion because, as noted above, there is no legitimate reason for name give-up to persist in a centrally cleared IRS market. Former CFTC Chairman Timothy Massad said he was "very concerned" about name give-up for "trades taking place on a central limit order book that are then immediately cleared."[189] Mr. Massad explained that the CFTC had "heard market participants express concern about potential negative consequences of this practice with respect to its effects on liquidity and participation" and he had "not heard a compelling justification" for the practice of name give-up in today's IRS market.[190]

337. Richard Mazzella, Chief Operating Officer for Global Fixed Income at Citadel observed: "If you are trading in a Clob [*i.e.*, a central limit order book] where you are pre-trade

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[189] Madigan, *supra* note 110. The CFTC does not police secret, horizontal collusion between direct competitors in the IRS or any other market. Moreover, the CFTC Chairman has recently stated that the CFTC has no plans to combat name give-up. *See* FINANCIAL TIMES, *CFTC Not Planning on Anonymity for Swaps Market* (Oct. 26, 2015), http://www.ft.com/fastft/414101/us-swaps-market.

[190] Remarks of Chairman Timothy Massad Before the ISDA 30th Annual General Meeting (Apr. 23, 2015), http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-17.

anonymous then you should also be post-trade anonymous. To me, it feels like when you cut through the arguments for post-trade disclosure, it's really just a means to discourage people from participating in the Clob." Similarly, former CFTC Commissioner Mark Wetjen has observed it is "difficult to rationalize trading protocols that reveal the identities of counterparties on an anonymous, central limit order book."[191]

338. The overwhelming presence of name give-up in the IRS market today is impossible to explain legitimately in light of the fact that the buy side is strongly opposed to the requirement and hungers for trading options that would permit them to trade anonymously if they so choose. Rana Chammaa, Executive Director of Direct Execution Sales for UBS, has acknowledged that: "Post-trade name give-up is often the number one hindrance to order book trading amongst our clients," describing it as "an archaic and unnecessary practice."[192] As Ken Griffin, founder of Citadel Investment Group ("Citadel"), has explained, name give-up allows dealers unfairly to "position their book by taking advantage of their trading counterparties' market insights," adding that "anonymous markets foster competition" and that "[i]t should not matter who provides the best price."[193] Michael O'Brien, Director of Global Trading at Eaton Vance, has stated: "I don't want to show the size of my trades, I don't want people to know how I'm trading. Information is the most valuable asset we have."[194]

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[191] *See CFTC Remarks of Commissioner Mark Wetjen before the Cumberland Lodge Financial Services Policy Summit* (Nov. 14, 2014), http://www.cftc.gov/PressRoom/Speeches Testimony/opawetjen-10.

[192] MRAC Transcript, *supra* note 154 at 143:14-17.

[193] Kris Devasabai, *Citadel's Ken Griffin on Amazon, Bloomberg and Swap Market Reform*, RISK (Oct. 31, 2014), http://www.risk.net/risk-magazine/profile/2377762/citadels-ken-griffin-on-amazon-bloomberg-and-swap-market-reform.

[194] Levinson, *supra* note 7.

339. Buy-side demand for anonymous trading is so great that "[s]ome asset managers have claimed their use of [order books] will increase if they are allowed to trade anonymously."[195] Stephen Berger of Citadel Securities has similarly commented that "we believe that the net impact on pricing and liquidity from eliminating post-trade name give-up would be overwhelmingly positive."[196] Paul Hamill, formerly employed by UBS and currently the Global Head of Fixed Income, Currencies, and Commodities for Execution Services at Citadel, echoed this sentiment, stating that platforms without anonymity "can arguably be seen as a disincentive for customers to put liquidity into the platform."[197] CFTC Chairman Massad has also observed that numerous "[i]nvestors have complained that they are unable to break into the interdealer markets because they are not anonymous — with names given up after trading."[198]

340. Accordingly, the Dealer Defendants' collusive efforts forcibly to impose name give-up on the market do not just help them police their conspiracy, they directly diminish market output and raise prices.

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[195] Madigan, *supra* note 110; *see also* Robert Mackenzie Smith, *Bank Swaps Headlock Slips as Chicago Prop Firms Join Sefs*, RISK (Aug. 6, 2015), http://www.risk.net/risk-magazine/feature/2420554/bank-swaps-headlock-slips-as-chicago-prop-firms-join-sefs (quoting the head of fixed income at a principal trading firm as stating: "If volume moves more towards [order books], then that's where we'll get more engaged").

[196] MRAC Transcript, *supra* note 154 at 153:16-19.

[197] MARKETS MEDIA, *SEFs Win Qualified Praise* (Oct. 8, 2013), http://marketsmedia.com/sefs-win-qualified-praise/.

[198] FINANCIAL TIMES, *supra* note 189. The IRS market is sometimes described as bifurcated into "wholesale" (dealer-to-dealer) and "retail" (dealer-to-client) divisions.

III. ABSENT A CONSPIRACY, THE INTEREST RATE SWAPS MARKET WOULD BE FAR MORE COMPETITIVE, EFFICIENT, AND TRANSPARENT FOR THE BUY SIDE

A. The Dealer Defendants Dominate the IRS Market

341. As a result of their conspiracy, the Dealer Defendants continue to dominate the IRS market. Based on available market-share information, the Dealer Defendants collectively control at least 70% of the market. In 2014, five of the ten Dealer Defendants collectively controlled over 50% of the IRS market by themselves while the remaining five Dealer Defendants controlled at least an additional 20% of the IRS market.[199]

342. The Dealer Defendants' power is well-recognized. As Paul Rowady of the TABB Group stated: "Given the indispensable role of dealers in the OTC derivatives market, it is clear that few structural changes can occur without dealer support."[200] Mr. Rowady also stated: "Frankly, nothing happens in OTC derivatives without the major dealers blessing the moves, as they are counterparty to every trade."[201]

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[199] In 2014, Bank of America was reported to control 12.6% of the IRS market, JP Morgan was reported to control 11.4% of the IRS market, Deutsche Bank was reported to control 9.5% of the IRS market, Citi was reported to control 9.2% of the IRS market, and Barclays was reported to control 8.2% of the IRS market. In 2012 Goldman Sachs was reported to control 6.9% of the IRS market, HSBC was reported to control 5.0% of the IRS market, BNPP was reported to control 4.9% of the IRS market, and Morgan Stanley was reported to control 3.2% of the IRS market. The remaining Dealer Defendants — Credit Suisse, RBS, and UBS — collectively controlled over 10% of the IRS market in 2012. *See* GREENWICH ASSOCS., 2013 GLOBAL INTEREST RATE DERIVATIVES: DEALER RANKINGS & MARKET TRENDS REPORT — UNITED STATES 1 (2013).

[200] Michael Mackenzie & Gillian Tett, *Markets: Frozen in Time*, FINANCIAL TIMES (June 15, 2010), http://www.ft.com/intl/cms/s/0/bf3fd548-78b6-11df-a312-00144feabdc0.html#axzz 3sFYwvyw0.

[201] *Id.*

343. There are no adequate substitutes for IRS. While other financial instruments replicate some aspects of IRS, none afford investors the same benefits with the same ease of use as IRS.

344. For example, CME offers a swap futures product, but attempting to mimic an IRS trade with such products is often untenable or simply impossible because the available liquidity of swap futures is nowhere near that of IRS. IRS trading volume dwarfs swap futures: as a typical order of magnitude, the average daily volume of cleared OTC USD IRS is approximately $200 billion notional, whereas that of swap futures is *one two-hundredths* the size at approximately $1 billion. The difference in open interest is even more disproportionate, on the order of $100 *trillion* in notional IRS interest outstanding versus a mere $25 billion in swap futures. The relative dearth of swap futures liquidity compared with IRS liquidity is a major barrier for buy-side participants because the price impact of any large trade will be much worse in the swap futures market than it would be in the IRS market, if the trade could be done at all in the swap futures market. This means that, if an IRS trade could even theoretically be replicated as a swap futures trade, the buy-side investor would have to pay much higher prices for the futures trade because it would be using up much more of the available supply.

345. Indeed, the Dealer Defendants have purposely contributed to the lack of liquidity in the swap futures market, by not directing liquidity into this market or supporting the swap futures market.

346. IRS are also not replicated by CME swap futures because the terms available are much more restrictive than in IRS, limiting their utility for the buy side. For instance, CME futures are quarterly contracts available in only six tenors (2-, 5-, 7-, 10-, 20-, and 30-year), whereas IRS regularly trade in tenors available in whole-year increments from one up to 30 years

or more. In addition, IRS can trade in fractions of year, such as a 3.5, 9.75, or 12.37-year. Similarly, while the start dates for the CME futures contracts are limited to just four dates a year (the third Wednesday of March, June, September, and December), IRS can start on any day the buy-side investor requires.

347. IRS can be used precisely and easily to hedge interest-rate fluctuations related to other financial instruments of significant value (by matching the start and end dates, tenor, and notional amount), whereas a CME futures contract cannot. Municipalities and corporations, accordingly, regularly enter into IRS related to floating-rate bonds they have issued; the IRS allow the entities to convert floating-rate exposure to fixed-rate exposure for the exact duration of the bonds. A futures contract would not match the start and end dates, thereby creating exposure to fluctuations in interest rates. Furthermore, a debt issuer would have to enter into numerous futures just to match the notional exposure on one bond issuance. As a result, municipalities, corporations, and other end users of IRS essentially make no use of futures contracts. For all of these and still other reasons, CME swap futures are not an adequate substitute for IRS.[202]

[202] Similarly, a package (or "strip") of Eurodollar futures can be used to replicate certain aspects of an IRS, but building such a package is complicated and time-consuming for the buy side, and it produces a set of cash flows that may differ from an IRS. Eurodollar futures are cash-settled futures contracts with a final futures price based on three-month LIBOR at the expiration date. Building a strip of Eurodollar futures requires the purchase or sale of a series of futures maturing in successively deferred months. Thus, as with CME futures, an investor must make multiple purchases to build the equivalent of one swap — four Eurodollar futures must be purchased for each year of tenor of the IRS. And while an IRS locks in a single fixed payment rate for the life of the swap, each individual Eurodollar future in a strip comes with a different interest rate, meaning it produces different cash flows than an IRS. For these and other reasons, a strip of Eurodollar futures is also not an adequate IRS substitute for the buy side.

B. Defendants' Conspiracy Has Imposed Significant Harm on Buy-Side Investors

348. As detailed above, the Dealer Defendants have colluded to maintain an artificial bifurcation of the IRS market (between a "wholesale" dealer-to-dealer side of the market and a "retail" dealer-to-client side of the market) up to the present day. The Dealer Defendants have relegated the buy side to dealer-to-client trading in the functional equivalent of the OTC market to protect their own supracompetitive profits. This bifurcation is wholly artificial and has directly imposed significant financial harm on buy-side investors.

349. The financial harm suffered by buy-side investors is directly observable and can be readily measured and quantified. One way to observe this harm is by comparing the IRS market with the market for other financial instruments.

350. Numerous financial instruments have migrated from less transparent or OTC trading platforms to all-to-all trading over the last two decades including, among others, equities, corporate bonds, and dividend swaps. The natural migration of financial instruments — from new bespoke, illiquid, instruments traded OTC to increasingly standardized and liquid instruments traded electronically through more transparent and competitive platforms — is well documented and the subject of numerous empirical studies and substantial academic research.

351. Examples include the migration of equities trading on NYSE and Nasdaq to electronic communication networks starting in the mid-1990s,[203] the introduction of post-trade

[203] James McAndrews & Chris Stefanadis, *The Emergence of Electronic Communications Networks in the U.S. Equity Markets*, 6 CURRENT ISSUES ECON. & FIN. 12 (Fed. Reserve Bank of N.Y.), Oct. 2000, at 2-3, https://pdfs.semanticscholar.org/1ea6/52dbbba884d116f55d28ae958e18465cc955.pdf.

price transparency for corporate bonds in 2002,[204] the subsequent migration of corporate bond trading from OTC to electronic platforms,[205] the opening of electronic order book trading on the NYSE to off-the-exchange-floor market participants in 2002,[206] and the migration of dividend swaps from OTC to exchange-like trading in 2008.[207]

352. In each of these cases, and many others, the empirical research and academic literature establish that the move towards price transparency and all-to-all trading increased efficiency and lowered the costs borne by the buy side. By way of example, recent academic literature studying the migration of corporate bonds away from OTC trading concludes that transaction costs for the buy side decline rapidly as the number of responding dealers in electronic auctions increases, thus proving the commonsense point that "[c]ompetition lowers costs."[208] A 2012 academic study comparing bid/ask spreads of bonds that trade on the New York Stock Exchange with bonds that trade only OTC,[209] similarly concludes that "the test group

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[204] Hendrik Bessembinder, William Maxwell & Kumar Venkataraman, *Market Transparency, Liquidity Externalities, and Institutional Trading Costs in Corporate Bonds*, J. FIN. ECON. 82, 2006, at 251-288; Amy K. Edwards, Lawrence E. Harris & Michael S. Piwowar, *Corporate Bond Market Transaction Costs and Transparency*, J. OF FIN., Vol. LXII, No. 3, June 2007, at 1421, 1438, 1446, 1447, 1448; Michael A. Goldstein, Edith S. Hotchkiss & Erik R. Sirri, *Transparency and Liquidity: A Controlled Experiment on Corporate Bonds*, 10 REV. FIN. STUDIES 235 (Mar. 2007).

[205] BMO Capital Markets, MARKETAXESS, October 4, 2012.

[206] Ekkehart Boehmer, Gideon Saar & Lei Yu, *Lifting the Veil: An Analysis of Pre-Trade Transparency at the NYSE*, J. OF FIN., Vol. LX, No. 2, April 2005, at 783-815; Kee H. Chung & Chairat Chuwonganant, *Transparency and Market Quality: Evidence from SuperMontage*, J. FIN. INTERMEDIATION 18, 2009.

[207] Kian Abouhossein, Delphine Lee & Cormac Leech, *Regulatory Proposal Analysis: Structural IB Profitability Decline*, J.P. MORGAN, Sept. 9, 2009, at 19.

[208] Terrence Hendershott & AnanthMadhavan, *Click or Call? Auction Versus Search in the Over-the-Counter Markets*, 70 J. OF FIN. 1, Feb. 2015, at 441.

[209] Fan Chen & Zhuo Zhong, *Pre-Trade Transparency in Over-the-Counter Markets*, Working Paper, Aug. 2012, at 3.

[NYSE-traded bonds] has on average 25 basis points smaller effective bid-ask spreads than the control group [bonds traded OTC only]."[210]

353. A BMO Capital Markets analyst report evaluating the difference in bid/ask spreads between the voice-based, less transparent or OTC market and the electronic MarketAxess platform for trading U.S. corporate bonds states:

> MarketAxess has conducted a number of analyses showing that trade costs in high-grade debt transacted on its platform are on average about 30% cheaper than for debt transactions in the market overall as reported through TRACE. This cost savings is related to the fact that electronic platforms enable orders to immediately source multiple dealer quotes rather than the small handful that may be available via traditional phone execution. *The more competition for business, the better quotes the dealers tend to give and the narrower the spreads*.[211]

354. Similar studies in the equity markets of the effects of changes in market transparency on bid/ask spreads and other metrics of market quality and liquidity conclude that bid/ask spreads declined following improvements in pre-trade transparency.[212]

355. Studies analyzing the transition of stock index futures from "open outcry" floor exchange trading to electronic trading reach similar conclusions. These studies provide "evidence of a decrease in bid-ask spreads following the introduction of electronic trading, after

[210] *Id.*

[211] BMO Capital Markets, *supra* note 205.

[212] These studies have examined, among other markets: (i) the NYSE's OpenBook service that provides limit-order book information to traders off the exchange floor, (ii) NASDAQ's SuperMontage which is an integrated order display and execution system, and (iii) Island ECN's "going dark" by no longer displaying its automated limit order book to any market participant and later reversing its decision. *See* Boehmer, *supra* note 206 at 783-815; Chung, *supra* note 206 at 93, 94, 99, 101, 102; Terrence Hendershott & Charles M. Jones, *Island Goes Dark: Transparency, Fragmentation, and Regulation*, 18 REV. FIN. STUDIES 3, 2005, at 743-793.

controlling for changes in price volatility and trading volume"[213] and provide "support for the proposition that electronic trading can facilitate higher levels of liquidity and lower transaction costs relative to floor traded markets."[214]

356. Studies focused on the impact of the increased market share of electronic communication networks in NASDAQ between 1996 and 2002 arrive at the same conclusion: "the development of these alternative trading platforms is associated with tighter quoted, effective, and relative bid–ask spreads, greater depths, and less concentrated markets."[215]

357. As these empirical and academic studies underscore, the introduction of price transparency, additional trading venues, and all-to-all trading brings competition to the marketplace, resulting in an observable narrowing of bid/ask spreads and other benefits for buy-side investors. The empirical and academic studies fully support the conclusion that the same results would prevail in the IRS market.

358. Absent Defendants' conspiracy, as in the other markets that had previously migrated to all-to-all electronic trading, the buy-side entities that comprise the class in this matter would directly experience bid/ask spread compression and other benefits in connection with their IRS trades. All-to-all anonymous trading would encourage alternative providers of liquidity to

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213 Michael J. Aitken, Alex Frino, Amelia M. Hill & Elvis Jarnecic, *The Impact of Electronic Trading on Bid-Ask Spreads: Evidence from Futures Markets in Hong Kong*, London, and Sydney," 24 J. FUTURES MARKETS 7, July 2004, at 676.

214 *Id.* at 675-696.

215 Jason Fink, Kristin E. Fink & James P. Weston, *Competition on the Nasdaq and the Growth of Electronic Communication Networks*, 30 J. BANKING & FIN. 9, Sept. 2006, at 2537–2559; McAndrews, *supra* note 203 at 3 (focusing on the impact of "bypass[ing] dealers, saving on dealer rents and minimizing trading costs").

enter the market in competition against the Dealer Defendants, yielding more competition.[216] And it would dilute the lopsided information advantage the Dealer Defendants currently have and exploit in the market to benefit their own trading positions at the expense of end users.

359. If all-to-all trading platforms had been available in a truly competitive marketplace — *i.e.*, one where Defendants were not colluding — there would have been a rapid migration of IRS trading onto those platforms. As noted by a recent report:

> In a free market populated by competitive, profit-maximizing dealers and price conscious customers, it would not make sense to expect otherwise. The margins from making markets in such a liquid marketplace with still sizable bid/offer[] spreads to capture would surely be attractive to many market participants outside the few traditional incumbent swaps dealers. . . . There is no question that other derivatives market participants wanted to be dealers in this market, and were actively — seemingly unlawfully — kept out.[217]

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[216] All-to-all, anonymous electronic trading platforms yield numerous procompetitive benefits common to all class members: "An electronic trading venue can enhance market quality due to the so-called liquidity externality. Concentrating a trade at one place and time reduces search costs and intensifies competition over price. Electronic venues can bring together a large and diverse participant pool and hence reduce the need for intermediaries that match demand and supply between segmented traders. Also, they can lower operational costs by automating processing, settlement and record-keeping. Still, venues must be carefully designed to avoid the unwanted dissemination of information. Participants may avoid venues if they believe negotiating or trading at the venue would expose their activity unnecessarily (information leakage)." BANK FOR INT'L SETTLEMENTS, *supra* note 9 at 20 (internal citations omitted); MRAC Transcript, *supra* note 154 at 142:20-143:5 (Michael O'Brien of Eaton Vance explaining that "name give-up becomes a very significant issue for me because as soon as I do my first small trade, now I have information leakage into the market about potentially what my intentions are . . . . that's really a deal breaker for executing on order books.").

[217] Kelleher, *supra* note 62 at 5. As explained in a recent report by the Bank for International Settlements, anonymous all-to-all trading has had precisely this impact on *interdealer* fixed income markets, similar to IRS: "Electronification of trading platforms is often associated with increased competition over price, which ensures low transaction costs (at least for small tickets). A centralised trading platform can bring together a large set of traders with opposing trading interests, reducing search frictions and raising competition to fill an order." *See* BANK FOR INT'L SETTLEMENTS, *supra* note 9 at 23.

360. Buy-side investors would also enjoy significant cost savings if they were able to supply quotes for IRS trades to other buy-side entities on all-to-all trading platforms. Even if only one of every three trades by a buy-side firm was executed this way, total net trade costs for the buy-side firm could decrease by as much as two-thirds from the current RFQ regime, for a given bid/ask spread.

361. Defendants' own analysts recognize that migration to anonymous all-to-all trading of IRS would result in significant spread compression that would benefit the buy side. In a May 30, 2012 analyst report, for example, Citi focused on the potential impact reforms could have on the dealers' OTC derivatives business by product category, including IRS.[218] The report evaluated how spreads would be affected by the "entry of new bank and non-bank competitors," the coexistence of multiple trading platforms, including electronic trading venues ("introduction of new multiple request-for-quote and central limit order book style trading venues"), and the extent to which trading volume would migrate away from the Dealer Defendants.[219]

362. The Citi report reached the following conclusions about the expected impact of increased competition and price transparency in the IRS market:

> *We expect bid/ask spreads on standardized derivatives to compress*. We analyzed five different historical market examples as they moved from voice-brokered markets to electronic or more transparent trading and found bid/ask spreads decreased by 60 – 85% with much of the margin compression within the first five years.[220]

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[218] The product category "Rates" or "Interest Rates" includes IRS, which includes plain vanilla IRS also referred to in the report as "linear swaps."

[219] Keith Horowitz, Craig Singer & Kinner Lakhani, *Global Banks and Brokers; Sizing Up "The Elephant in the Room" — Regulatory Paradigm Shift and the Impact on Fixed Income Trading*, CITI, May 30, 2012, at 16.

[220] *Id.* (emphasis added).

363. The Citi report also concluded that "*a significant proportion of interest rate swap volume is likely to migrate to clearing and exchange trading*."[221] And that as a result of the increased competition they would face, dealer revenue would decrease by approximately 15% to 20%.[222]

364. A September 2009 JP Morgan analyst report came to similar conclusions. In the context of examining the impact of exchange trading on CDS, JP Morgan analyzed the extent to which the bid/ask spreads of other OTC derivatives, including IRS, could decline merely as a result of increased post-trade price transparency. Based solely on being required to provide additional post-trade transparency — and not a shift to pre-trade transparency or all-to-all trading — JP Morgan estimated that bid/ask spreads for IRS could decline by as much as 25%.[223] The JP Morgan report further acknowledged that a move away from OTC trading would "materially impact interest rate derivatives."[224]

365. In this same report, JP Morgan concludes that CDS bid-ask spreads would fall by 50% as a result of exchange trading.[225] This is a degree of compression that JP Morgan, in a subsequent analyst report, confirms would extend to other OTC derivatives such as IRS as well, if these instruments were to move away from OTC-like trading platforms.[226]

366. Other analyst reports issued by the Dealer Defendants reach similar conclusions. A December 18, 2012 Credit Suisse report states that increased price transparency in IRS and

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221 *Id.* at 79 (emphasis added).

222 *Id.* at 17.

223 Abouhossein, *supra* note 207 at 21.

224 *Id.* at 17, 52.

225 *Id.* at 18, 19.

226 *Id.* at 7.

OTC derivatives generally would compress bid-ask spreads and reduce dealer margins.[227] An October 26, 2012 report by Morgan Stanley reaches similar conclusions.[228]

367. The Citi and JP Morgan reports based their conclusions on their review of the extensive body of empirical research analyzing how the migration from OTC-like trading to transparent all to all trading platforms impact bid/ask spreads and result in benefits for the buy side. Indeed, the Citi report concludes that across the range of studies focusing on the migration of financial instruments to more transparent and competitive all-to-all type platforms, the bid/ask spread shrank by an average of 77% and trading volume increased by an average of 373%.[229] The JP Morgan report similarly draws upon the observed decline in bid/ask spreads for corporate bonds and a study of dividend swaps whose spreads JP Morgan finds to have fallen up to 75 percent one year after the launch of exchange trading.[230]

368. The extensive empirical evidence of how other financial instruments and markets were impacted by the introduction of more transparent and competitive trading platforms provides an objective basis to determine how bid/ask spreads and trading patterns for IRS would have evolved had the Dealer Defendants not blocked all-to-all trading for IRS.

369. Absent Defendants' conspiracy, Class members would have substituted non-standard IRS trades for more standard trades on anonymous all-to-all platforms.[231] This would

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[227] Howard Chen, Ashley Serrao & Christian Onwugbolu, *2013 Outlook: More Puts and Fakes?*, CREDIT SUISSE, Dec. 18, 2012, at 7, 8.

[228] Jonathan Marymor & Mikhail Levin, *The Impact of Dodd-Frank: How Dodd-Frank Will Impact the Swap Market Liquidity*, MORGAN STANLEY RESEARCH, Oct. 26, 2012, at 10.

[229] Horowitz, *supra* note 219 at 19.

[230] Abouhossein, *supra* note 207 at 18, 19.

[231] Declaration of Darrell Duffie in Support of Plaintiffs' Motion for Clarification (Dkt. 243) ¶¶ 11-12.

have magnified the beneficial effects of all-to-all anonymous trading because Class members would increasingly have traded the products available on such platforms, rather than other, non-standard products. And non-standard products would in turn have become increasingly standardized or converted into standardized products in order to take advantage of new all-to-all anonymous trading platforms. The improved transparency and competition on all-to-all anonymous trading platforms would also have had beneficial pricing effects on IRS traded OTC and on non-anonymous RFQ platforms.[232] This is because the prices for similar instruments tend to be correlated, and the enhanced price transparency on all-to-all anonymous trading platforms would have forced dealers to provide more competitive quotes even for OTC and non-anonymous RFQ transactions.[233]

C. Absent Collective Action, It Would Have Been Economically Rational for Individual Defendants to Support the Development of the IRS Market

370. Absent a conspiracy, it would have been in the individual interest of many different market participants — including IDBs, clearinghouses, and SEFs — to offer an all-to-all trading platform solutions to the buy side. Instead, because of Defendants' conspiracy, the SEFs that *have* tried to offer such platforms have been put out of business, and SEFs like Tradeweb that replicate the structure of the OTC market by offering the buy side only a dealer-to-client RFQ have prospered. Without Defendants' collusion, offerings such as those by Javelin, TeraExchange, and TrueEX would have generated large new revenue streams through increased volume and market share.

371. Absent a conspiracy, it would be economically rational for a SEF like Tradeweb to offer a fully anonymous all-to-all trading platform for IRS that is open to the buy side, or for

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232 *Id.* ¶ 14.

233 *Id.*

an IDB to open its all-to-all platform to the buy side. Doing so would enable them to attract a greater volume of IRS trades and earn higher revenues. But, as discussed above, SEFs that attempted to bring anonymous all-to-all trading to the buy side, such as Javelin, TeraExchange, and TrueEX, have received credible threats, backed up by business-destroying boycotts.[234] Due to the Dealer Defendants' conspiracy, not a single all-to-all anonymous SEF open to the buy side currently does any meaningful trading in the IRS market.

372. Absent a conspiracy, it also would have been in the individual interest of many Dealer Defendants to support such a change as well. Evolution to all-to-all trading open to the entire market would have been inevitable — it is the natural progression when financial products become highly standardized, high-volume products. This is particularly true where, as here, solution providers were actively entering the market to make this happen in response to strong buy-side demand.

373. Given its inevitability, each Dealer Defendant, absent coordination, would have advanced its own self-interest by partnering with a solution provider in order to "get in on the ground floor," increasing its own market share and positioning itself for a fully competitive IRS market. In the absence of collusion, each Dealer Defendant would have been dragged onto all-to-all platforms by client demand, pursuing the revenue available on such platforms. Dealers who failed to adhere to their client's demands would quickly find themselves losing business.

374. Absent a conspiracy, an individual Dealer Defendant could increase its own market share by providing a more favorable trading experience to the buy side in the form of fully anonymous all-to-all trading, as clients shifted their trades away from other dealers onto the

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[234] *See also* Karen Brettell, *Banks' Pressure Stalls Opening of U.S. Derivatives Trading Platform*, REUTERS (Aug. 27, 2014), http://www.reuters.com/article/2014/08/27/us-usa-derivatives-banks-idUSKBN0GR1Z320140827.

trading platform. An individual Dealer Defendant could also have obtained an equity share in the trading platform, allowing it to share in the profits of the enterprise. Even leaving aside the potential to be an industry leader and gain a first-mover advantage, each Dealer Defendant would have an independent interest in trading on the new platforms and providing clearing services, all of which could have been a profitable source of income. Because no individual Dealer Defendant could prevent all-to-all trading for the whole market from flourishing, the only way to overcome each Dealer Defendant's individual economic self-interest in participating was to coordinate a united front that could prevent the emergence of all-to-all trading platforms.

375. Absent a conspiracy, it would have been in the self-interest of buy-side members to support and utilize all-to-all platforms. Such platforms would have allowed them to trade anonymously and would have compressed bid/ask spreads due to increased competition and transparency. It would also have afforded them the opportunity to trade with market participants other than the major dealers.

376. Because of Defendants' conspiracy, none of this happened. Not because IRS are not ready for all-to-all trading. Not because the buy side does not want all-to-all trading. Not because solution providers were not ready, willing, and able to offer all-to-all trading to the buy side. The IRS market exists as it does because the Dealer Defendants collectively blocked the market's evolution.

377. Defendants' conspiracy and agreements were *per se* efforts to thwart competition among horizontal competitors. The Dealer Defendants' collective refusals to deal with those SEFs, end users, and other entities that would not play ball amounted to group boycotts that are illegal under the antitrust laws. All class members were harmed by these illegal acts because they were all deprived of the opportunity to transact IRS at tighter bid/ask spreads.

D. Investigations and Litigation Concerning the Credit Default Swaps Market Show that the Dealer Defendants Collude to Block Exchange Trading

378. This is not the first time the Dealer Defendants conspired to protect their privileged position as dealers for innovative entrants posing threats. To the contrary, the Dealer Defendants' strategy here parallels their misconduct in the CDS market.

379. The Dealer Defendants' misconduct in the CDS market was the subject of two separate investigations by the United States Department of Justice ("DOJ") and the European Commission ("EC"). The DOJ and EC investigations were spurred by complaints by market participants that the Dealer Defendants, who were the major CDS dealers, were abusing their control of the market to limit price transparency and competition.[235] In one widely reported email, for example, Samuel Cole, then-Chief Operating Officer of buy-side firm BlueMountain, lamented that banks, including many of the Dealer Defendants, were engaging in "liberal use of dissembling and obfuscation" in order to retain their "oligopolistic dominance" of most major market structures in the credit markets.[236]

380. The concerns expressed by the DOJ and EC highlight similar conduct to that in which the Dealer Defendants engaged in the IRS market. For example, the EC stated that "the banks acted collectively to shut out exchanges from the market because they feared that exchange trading would have reduced their revenues from acting as intermediaries in the OTC

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[235] *See* Liz Rappaport, Carrick Mollenkamp & Serena Ng, *U.S. Tightens Its Derivatives Vise*, WALL ST. J. (July 15, 2009), http://www.wsj.com/articles/SB124756743503138067.

[236] Serena Ng, *Friction on Swaps Response*, WALL. ST. J. (June 3, 2009), http://wsj.com/news/articles/SB124390301244674747.

market."[237] The EC believed that "the investment banks also sought to shut out exchanges . . . by coordinating the choice of their preferred clearing house."[238]

381. The similarities also carry over to the means by which exchange-like trading was blocked — *i.e.*, collective control over the system's infrastructure, by way of group boycotts and consortium investments. For instance, CME backed a joint venture (with Citadel) known as CMDX, which was going to enable market participants to execute CDS trades through an order book. Modeling showed that CMDX would support "the trading and clearing of the most extensive CDS product set in the industry."[239]

382. In June 2008, CMDX was presented to the market. Members of the sell-side were offered equity in the venture, creating significant upside for those who would move first to support the migration to an exchange. Initially, some dealers were tempted. A Barclays report found that such offers should help the already "well positioned" venture "get off the ground," which was also helped by the fact that at least some CDS "already lend themselves to trade in an exchange-like fashion."[240] Chris Adams, Global Products Head, Alternative Funds at BNPP, praised the venture in an interview with the *Financial Times*.[241]

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[237] European Commission, *Press Release — Antitrust: Commission Sends Statement of Objections to 13 Investment Banks, ISDA and Markit in Credit Default Swaps Investigation* (July 1, 2013), http://europa.eu/rapid/press-release_IP-13-630_en.htm.

[238] *Id.*

[239] *About CMDX — Overview*, CMDX.COM (Feb. 15, 2009), http://web.archive.org/web/20090215203639/http://cmdx.com/about-us-overview.html.

[240] BARCLAYS CAPITAL EQUITY RESEARCH, *Exchange-Traded CDS Has Several Hurdles* (Oct. 8, 2008).

[241] Hal Weitzman & Jeremy Grant, *CME-Citadel Form Clearing Facility*, FINANCIAL TIMES (Oct. 7, 2008), http://on.ft.com/1lQEfNs.

383. CMDX was operationally ready by the fall of 2008[242] and was initially backed by several dealers.[243] CMDX ran into a brick wall, however, once the CDS dealers, including the Dealer Defendants, appreciated the platform's potential and were able to circle the wagons. As here, the dealers enjoyed the benefit of owning, and being on the boards of, entities that controlled the system's infrastructure — in CDS, the relevant entities were Markit Group Ltd. ("Markit") and ISDA, whose boards were dominated by representatives of the dealer community.

384. Though CMDX was operationally ready, it believed it first needed to seek licenses from Markit and ISDA to use certain intellectual property. But government investigations indicated the dealers used their control over Markit and ISDA, and thus over licensing decisions, to prevent CMDX from launching with exchange-like features — instead insisting a dealer stand on one side of every transaction, just like they did in the IRS market.[244]

385. A series of private class actions were filed against ISDA, Markit, and twelve CDS dealers alleging they had conspired to boycott the exchange trading of CDS. The cases were consolidated into a single action. The defendants eventually agreed to pay over $1.86 billion to settle the claims and also agreed to injunctive relief that has helped clear the way for exchange trading of CDS.[245]

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[242] Ciara Linnane & Karen Brettell, *NY Federal Reserve Pushes for Central CDS Counterparty*, REUTERS (Oct. 6, 2008), http://www.reuters.com/article/2008/10/06/cds-regulation-idUSN0655208920081006.

[243] *CME Sees Up to Six Dealers Backing Credit Swaps Platform*, DOW JONES NEWSWIRE (Dec. 23, 2008), http://www.efinancialnews.com/story/2008-12-23/cme-sees-up-to-six-dealers-backing-credit-swaps-platform-1?ea9c8a2de0ee111045601ab04d673622.

[244] EUROPEAN COMMISSION, *supra* note 237.

[245] *See* Katy Burne, *Big Banks Agree to Settle Swaps Lawsuit*, WALL ST. J. (Sept. 12, 2015), http://www.wsj.com/articles/banks-wall-street-groups-agree-to-settle-credit-swaps-antitrust-case-1441988741.

386. As in the CDS market in 2008 and 2009, current IRS market participants lament how "the big banks control over half the liquidity in the market, giving them the power to decide which platforms survive, and which die."[246] As a trader at one buy-side firm noted regarding the challenges that independent SEFs face, "[i]t's been a really tough environment for the start-up SEFs, [because] the market is designed not to allow new entrants."[247] Similar to how the major CDS dealers allegedly used their control over the CDS market to block new entrants and artificially inflate bid/ask spreads, current participants in the IRS market find themselves in an anticompetitive stranglehold, where promising new market developments are either entirely blocked, or taken over and neutralized, by the Dealer Defendants.

IV. EQUITABLE TOLLING OF THE STATUTE OF LIMITATIONS DUE TO DEFENDANTS' CONCEALMENT OF THE CONSPIRACY

387. Plaintiffs did not discover and could not have discovered through the exercise of reasonable diligence that they were injured by Defendants' conspiracy to prevent all-to-all trading open to the buy side in the IRS market, much less who caused that injury, until sometime after June 2014, when the Dealer Defendants' campaign to squash SEFs from offering anonymous all-to-all trading to the buy side became apparent.

388. Before that point, no one other than the Defendants themselves knew or could have known about the Dealer Defendants' secret conspiracy to control the IRS market. Prior to that point, the Dealer Defendants had not publicly demonstrated their ability and intention to squash any threat to their collective dominance.

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[246] Levinson, *supra* note 7.

[247] *See* Mike Kentz, *Make or Break Time for SEFs*, INT'L FIN. REV. (May 2014), http://www.ifre.com/make-or-break-time-for-sefs/21146200.fullarticle.

389. When Congress passed Dodd-Frank in July 2010, it expected the changes it mandated would move the market towards all-to-all trading platforms and that the buy side would enjoy the benefits of exchange trading in the form of greater price transparency and competition. This shows that Congress did not realize the Dealer Defendants had organized an illegal conspiracy to prevent the very market changes it intended to bring about.

390. Nor did other participants in the market. In fact, none of the extensive and expensive efforts undertaken by sophisticated market participants to bring all-to-all trading to IRS markets would have been rational if the Dealer Defendants' conspiracy had been publicly known. For example, investors spent millions of dollars to launch TeraExchange in 2011 with the expectation the market would move to the all-to-all trading the buy side clearly demanded. Javelin launched its business at the end of 2011 and, by late 2014, had signed up approximately 80 buy-side entities to trade on its all-to-all platform. In 2013, TrueEX sought to bring an anonymous all-to-all trading platform to market. It would have been economically irrational for these businesses — which included industry experts — to make these large investments to pursue all-to-all trading of IRS if there had been any indication of the Dealer Defendants' conspiracy.

A. Defendants Concealed Their Conspiracy

391. By its very nature, Defendants' conspiracy was self-concealing. The Dealer Defendants knew their joint efforts to boycott market offerings that expanded competition to the buy side would not have succeeded if they had been made public.

392. Accordingly, as detailed herein, Defendants executed their conspiracy, in large part, through secret meetings and discussions. These meetings were often, although not exclusively, held under the cover of meetings connected with ostensibly independent market actors, like Tradeweb or ISDA or other industry bodies or consortia identified herein. These

meetings provided a seemingly legitimate front for Defendants' conduct even though their discussions, in fact, often had no valid connection to the legitimate work of the boards, committees, and other entities. Plaintiffs had no reason to believe these meetings were being used by Defendants to execute a conspiracy to block the anonymous, all-to-all trading of IRS.

393. Defendants also met secretly at the offices and homes of their senior executives and at restaurants in New York City. The details of these meetings were secret, as were the identities of the individuals attending the meetings. Defendants' internal communications and communications among each other were not public information, rendering impossible any ascertainment of the misconduct of individual Defendants or the fact of the conspiracy as a whole. Defendants also regularly communicated regarding their conspiracy via telephone, email, instant messaging, and Bloomberg messaging. Plaintiffs had no way to access such communications.

394. The nature and structure of the opaque, OTC market for IRS that Defendants had fostered kept their conspiracy concealed from the public. In this market, the Dealer Defendants' actual quotes and prices for IRS were not public information, making any comparison of quotes among competitors, or scrutiny of bid/ask spreads by a Dealer Defendant, effectively impossible.

395. Defendants also repeatedly offered false and misleading public explanations for their conduct, which were intended to conceal the true reasons for their actions. Defendants made false and misleading statements in a purposeful effort to cause the public to believe that there were legitimate reasons for the lack of evolution in the IRS market, and they represented that their actions were beneficial to the market.

396. For example, as discussed above, when the Dealer Defendants took control of Tradeweb's IRS business in 2007, they worked with Tradeweb to misrepresent the true nature of

the transaction as simply a "minority" stake. The Dealer Defendants did this deliberately to hide their conduct from attention and scrutiny. And this effort was successful.

397. Tradeweb publicly claimed that the deal would be beneficial to the buy side because it would provide "[a]ccess to a deep pool of dealer liquidity for interest rate swaps," "[a]ccurate pricing information off which to drive analytics and modeling," and "[g]reater market transparency, increased trading effectiveness and reduced operational complexity for both the buy-side and sell-side."[248] In reality, the deal allowed the Dealer Defendants to prevent the very market evolution Tradeweb claimed would result from the deal.

398. The Dealer Defendants also falsely claimed their investment would help Tradeweb bring more innovative offerings to the market. Vic Simone, Global Head of Principal Strategic Investments for Goldman Sachs, stated, on behalf of the Dealer Defendants taking over Tradeweb, that they were "pleased to partner with TradeWeb to provide our clients with the transparency, price discovery and efficiency of electronic execution."[249] Mr. Simone added: "Together, we will provide new solutions that reduce technology complexity, increase settlement accuracy and drive best-execution pricing."[250]

399. Similarly, when Barclays acquired a stake in Tradeweb in 2009, Harry Harrison, the Head of Rates for Barclays, falsely claimed that the purchase was an effort to "deliver[] best-in-class service, liquidity and reliability in the electronic trading space to our clients."[251] Along with the misrepresentation that Barclays and the other Dealer Defendants were taking "a *minority* equity stake in its business," Harrison added that "[o]ur stake in Tradeweb also

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248 TRADEWEB, *supra* note 33.

249 *Id.*

250 *Id.*

251 TRADEWEB, *supra* note 42.

complements our strategy for improving market efficiency and transparency alongside our market-leading electronic trading platform, BARX."[252] Billy Hult, President of Tradeweb, claimed that including Barclays in the venture was important because of its ability to provide "improved price transparency, speed of execution and more streamlined post-trade processing."[253]

400. Defendants also attacked order-book trading of IRS to cover their collusive efforts. Dexter Senft, Morgan Stanley's Global Head of Fixed Income E-Commerce, stated that "[f]ixed income securities just aren't suitable to trade on [an order book] as it's too risky to be a price maker."[254] Laurent Paulhac, the CEO of ICAP's SEF, similarly claimed that "[i]n electronic trading, market participants can get hurt very quickly, especially if they are in a central limit order book. In times of stress you need to be able to put buyers and sellers together."[255] Such statements were intentionally misleading in light of the fact, for example, that ICAP offers an order book and that it is used by the Dealer Defendants, including Morgan Stanley.[256]

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[252] *Id.*

[253] *Id.*

[254] Helen Bartholomew, *Swaps Market Structure Changes Create Fragility*, INT'L FIN. REV. (Sept. 24, 2015), http://www.ifre.com/swaps-market-structure-changes-create-fragility/21217649.fullarticle.

[255] *Id.*

[256] Ironically, Mr. Senft, in a momentary lapse from Defendants' script, intimated that the buy side should use all-to-all anonymous order books, stating that the buy-side "should access [SEFs] in the way that gives them the best execution. At the moment, there's arguably not enough liquidity in the central limit order books to constitute best execution, but once it's there, and I think that's just a question of time, folks will experiment and determine what is best execution." Daniel O'Leary, *SEF Sector Participants Look Beyond Short Term Hitches*, GLOBALCAPITAL (July 7, 2014), http://www.globalcapital.com/article/m438s24rf8l4/sef-sector-participants-look-beyond-short-term-hitches.

401. Moreover, even while the Dealer Defendants used their power to constrain the buy side to their positions as clients in the dealer-to-client market structure, they made statements falsely indicating that the buy side could act as market makers if they wished. Kevin Arnold, former Head of FX Trading, Rates, and Credit for the Americas at UBS, for instance, stated as recently as August 2015 that "[n]on-banks are welcome" to provide liquidity in interest rate swaps.[257]

402. Defendants also intentionally provided pretextual reasons for the persistence of post-trade name give-up. Laurent Paulhac, for instance, claimed in April 2015 that ICAP continues the practice because anonymity "would be a difficult step for any platform to take, but for operational and competitive reasons, rather than any fear of retaliation."[258] Such claims falsely attribute the persistence of name give-up to market choice.

403. Defendants' success in hiding their collusion was facilitated by their tremendous clout in the financial markets, above and beyond the IRS market. The Dealer Defendants have the power to make IDBs and buy-side firms thrive or perish. Market participants are acutely aware that they cannot afford to make enemies of the Dealer Defendants, and there is a great fear of retaliation. Market participants are well aware that, even if they were to make tentative suggestions that the Dealer Defendants might be engaging in anticompetitive behavior, such suggestions could be met with retaliation that could cause severe financial harm. Defendants' power and willingness to use it to silence, penalize, and exclude those who oppose their interests, help explain why the first hints of Defendants' conspiracy did not emerge until sometime after June 2014.

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[257] Smith, *supra* note 195.

[258] Madigan, *supra* note 110.

404. These actions and statements by Defendants, individually and in the aggregate, affirmatively concealed Defendants' conspiracy. These affirmative representations, acts of concealment, and the inherently self-concealing nature of the conduct at issue made it impossible for Plaintiffs to discover Defendants' conspiracy prior to June 2014 at the earliest.

B. Plaintiffs' Inability to Discover the Conspiracy Did Not Result from a Lack of Diligence

405. Because Defendants employed acts and techniques that were calculated to conceal the existence of such illegal conduct, Plaintiffs could not have discovered the existence of this unlawful conduct through their exercise of due diligence any earlier than June 2014.

406. Plaintiffs, either directly or through professional investment advisors and/or managers they hired, regularly monitored their investments and conducted due diligence to try to avoid being harmed by financial misconduct throughout the Class Period.

407. Throughout the Class Period, Plaintiffs, either directly or through professional investment advisors and/or managers they hired, regularly monitored news reports concerning the financial industry and the IRS market. Plaintiffs undertook such activity in order to invest wisely and maximize the returns on their investments. Throughout the Class Period, Plaintiffs, either directly or through professional investment advisors and/or managers they hired, also regularly monitored prices and bid/ask spreads within the IRS market, to the extent such monitoring was possible. For example, Plaintiffs, directly or through their investment managers or advisors, regularly monitored available IRS pricing data through electronic databases and other sources, including Bloomberg and ICAP.

408. Practically speaking, there were limits to what could be done, given that so much of the IRS market was shrouded in secrecy due to Defendants' conduct. The pricing data available to Plaintiffs did not reflect real-time bid/ask spreads available in the market. Plaintiffs'

inability to obtain real-time data on bid/ask spreads was a direct result of the agreements Defendants reached to keep the IRS market opaque.

409. Plaintiffs also retained and consulted with sophisticated investment managers to manage their investments, including their IRS investments, monitor the financial markets, including the IRS market and their IRS investments, and obtain the best possible IRS pricing. In this regard, one of Chicago Teachers' investment managers that was retained to manage a portion of the Fund's assets, and is familiar with the market, invested in IRS contracts on behalf of Chicago Teachers. LACERA also employed asset managers who managed a portion of LACERA's assets, are familiar with the market and invested in IRS contracts on LACERA's behalf. Similarly, one of Genesee's investment managers that was retained to manage a portion of the Fund's assets, and is familiar with the market, invested in IRS contracts on Genesee's behalf. For each IRS contract Baltimore entered into, it engaged a swaps advisor that advised Baltimore on the best hedging strategy for the city. This included advising Baltimore on the structuring, execution and negotiation of IRS contracts, as well as helping it select the best counterparties and terms for its IRS purchases.

410. None of these Plaintiffs was informed by their investment managers of facts that would have put a reasonable person on notice of the fact that Defendants were colluding to prevent buy-side access to all-to-all trading in the IRS market. These Plaintiffs relied on the advice, monitoring, and diligence of their investment managers.

411. Thus, at no time prior to the June 2014 events identified above did any of the Plaintiffs believe or have reason to believe that the Dealer Defendants' pricing of IRS was a result of or affected by a secret and unlawful conspiracy among the Defendants to block competition from all-to-all trading and to keep bid/ask spreads artificially inflated.

412. Because of Defendants' concealment, any applicable statute of limitations affecting or limiting the rights of action by Plaintiffs or members of the Class have been tolled during the period of concealment

C. <u>Defendants Continue to Conspire to Avoid Scrutiny and Liability</u>

413. The Dealer Defendants continue to take steps to shield their conspiracy from scrutiny and liability. As noted above, in October 2016, *Bloomberg* reported that a "secret society" of the senior in-house lawyers for the Dealer Defendants has met annually for many years at lavish locations around the world, with the latest meeting being held at Versailles in France in late May 2016. At that May 2016 meeting, these general counsel discussed how they could avoid breaking ranks to settle antitrust litigation, including this one.[259] Two insiders who attended the meeting reported that the banks discussed that no bank should settle any lawsuit (including by agreeing to provide cooperation to civil plaintiffs) until at least sixty days after the banks have filed to dismiss the lawsuit.

414. This agreement reflects a recognition by the Dealer Defendants of their culpability. Simply put, there would be no need for this type of discussion or agreement if the conspiracy allegations contained herein lacked plausibility or supporting evidence. Moreover, the fact that the Dealer Defendants' lawyers expressly discussed agreeing not to settle until at least sixty days *after* the filing of a motion to dismiss reflects that, even as the banks are aware of their culpability, they have agreed to take a collective shot at securing dismissal of the case in order to keep their unlawful conduct permanently hidden.

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[259] Farrell, *supra* note 14.

CLASS ACTION ALLEGATIONS

415. Plaintiffs bring this action on behalf of themselves and, under Federal Rules of Civil Procedure 23(a) and (b)(3), as representatives of a Class defined as follows:

> All persons or entities who, from January 1, 2008 to the present, directly entered into fixed-for-floating, floating-for-fixed, or floating-for-floating interest rate swaps with the Dealer Defendants, or their respective affiliates, in the United States and its territories. Excluded from the Class are Defendants, their co-conspirators identified herein, and their officers, directors, management, employees, and current subsidiaries or affiliates (the "Class").

416. ***Numerosity.*** Members of the Class are so numerous that joinder is impracticable. Plaintiffs do not know the exact size of the Class, but believe that there are thousands of class members geographically dispersed throughout the United States.

417. ***Typicality.*** Plaintiffs' claims are typical of the claims of the members of the Class. Plaintiffs and all members of the Class were damaged by the same wrongful conduct of Defendants. Specifically, Defendants' wrongdoing caused Plaintiffs and members of the Class to pay inflated fixed rates when they were on one side of a swap or receive unduly low fixed rates when they were on the other side of a swap.

418. Plaintiffs will fairly and adequately protect and represent the interests of the Class. The interests of Plaintiffs are coincident with, and not antagonistic to, those of the Class. Accordingly, by proving its own claims, Plaintiffs will prove other class members' claims as well.

419. ***Adequacy of Representation.*** Plaintiffs are represented by counsel who are experienced and competent in the prosecution of class action antitrust litigation. Plaintiffs and their counsel have the necessary financial resources to adequately and vigorously litigate this class action. Plaintiffs can and will fairly and adequately represent the interests of the Class and

have no interests that are adverse to, conflict with, or are antagonistic to the interests of the Class.

420. ***Commonality.*** There are questions of law and fact common to the Class, which questions relate to the existence of the conspiracy alleged, and the type and common pattern of injury sustained as a result thereof, including, but not limited to:

a. Whether Defendants and their co-conspirators engaged in a combination and conspiracy among themselves to allocate the dealer-to-client IRS market and dealer-to-dealer IRS market between themselves and to boycott all-to-all trading platforms that were open to the buy side, thereby inflating prices associated with the purchase and sale of IRS in the United States;

b. Whether Defendants' conduct violated the antitrust laws;

c. Whether the conduct of Defendants and their co-conspirators, as alleged, caused injury to the business and property of Plaintiffs and other members of the Class;

d. The effect of Defendants' alleged conspiracy on the prices associated with the purchase and sale of IRS sold in the United States during the Class Period;

e. The appropriate measure of damages sustained by Plaintiffs and other members of the Class;

f. Whether Plaintiffs and other class members are entitled to injunctive relief; and

g. The appropriate injunction needed to restore competition.

421. ***Predominance.*** Questions of law and fact common to the members of the Class predominate over questions that may affect only individual class members because Defendants have acted on grounds generally applicable to the entire Class, thereby making a common methodology for determining class damages as a whole appropriate. Such generally applicable conduct is inherent in Defendants' wrongful conduct.

422. ***Superiority.*** Class action treatment is a superior method for the fair and efficient adjudication of the controversy. Such treatment will permit a large number of similarly situated, geographically dispersed persons or entities to prosecute their common claims in a single forum simultaneously, efficiently, and without the unnecessary duplication of evidence, effort, or expense that numerous individual actions would engender. The benefits of proceeding through the class mechanism, including providing injured persons or entities a method for obtaining redress on claims that could not practicably be pursued individually, substantially outweighs potential difficulties in management of this class action. The Class has a high degree of cohesion, and prosecution of the action through representatives would be unobjectionable.

423. ***Ascertainability***. The members of the Class are ascertainable by applying objective criteria to business records.

424. Plaintiffs know of no special difficulty to be encountered in the maintenance of this action that would preclude its maintenance as a class action.

CAUSES OF ACTION

FIRST CAUSE OF ACTION
(Conspiracy to Restrain Trade in Violation of Section 1 of the Sherman Act)

425. Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

426. As alleged above, Defendants and their co-conspirators entered into and engaged in a horizontal contract, combination, or conspiracy in restraint of trade to restrict competition in the dealer-to-client IRS market and to jointly boycott entities that would introduce competition on IRS bid/ask spreads in the United States in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1. Such contract, combination, or conspiracy constitutes a naked, *per se* violation of the federal antitrust laws and is, moreover, an unreasonable and unlawful restraint of trade that lacks any countervailing procompetitive rationale.

427. Defendants and their co-conspirators' contract, combination, agreement, understanding, or concerted action was without procompetitive justification and occurred within the flow of, and substantially affected, interstate commerce.

428. IRS are, and are widely perceived by those in the industry to be, a unique financial product. The market for the purchase and sale of IRS in the United States is treated as a distinct financial market by market participants, government actors, and in economic literature.

429. Other derivative products are not substitutable for IRS. The rapid rise in IRS volume following their inception in the mid-1980s demonstrates that investors turned to IRS to secure the unique and critical function of protection against future movements in interest rates.

430. The relevant geographic market is the United States. The Dealer Defendants, however, dominate more broadly defined geographic markets as well, including the global market.

431. As a direct and proximate result of Defendants' scheme and concrete acts undertaken in furtherance thereof, competition in IRS trades between Defendants and their non-dealer customers has been severely curtailed. Plaintiffs and class members have been injured and financially damaged in their respective businesses and property, in amounts that are

presently undetermined. Plaintiffs' and each class member's damages are directly attributable to Defendants' conduct, which resulted in all class members paying artificially inflated bid/ask spreads on every IRS they purchased or sold during the Class Period. Plaintiffs' injuries consist of artificially inflated costs associated with the purchase and sale of IRS in the United States caused by Defendants' misconduct. Plaintiffs' injuries are of the type the antitrust laws were designed to prevent, and flow from that which makes Defendants' conduct unlawful.

SECOND CAUSE OF ACTION
(Unjust Enrichment Under New York law)

432. Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

433. Plaintiffs and every member of the Class directly traded IRS with one or more of the Dealer Defendants.

434. Because of the acts of Defendants and their co-conspirators as alleged herein, Defendants have been unjustly enriched at the expense of Plaintiffs and the Class, including by unjustly obtaining profits from the inflated bid/ask spreads on IRS transactions with Plaintiffs and the Class.

435. Plaintiffs and the Class seek restitution of the monies of which they were unfairly and improperly deprived, as described herein.

PRAYER FOR RELIEF

436. WHEREFORE, Plaintiffs, on behalf of themselves and the proposed Class of similarly situated entities, respectfully request that the Court:

a. Determine that this action may be maintained as a class action pursuant to Federal Rule of Civil Procedure 23(a) and (b)(3), direct that reasonable notice of this action, as provided by Federal Rule of Civil Procedure

23(c)(2), be given to the Class, and declare Plaintiffs as the representatives of the Class;

b. Find Defendants jointly and severally liable for the damages incurred by Plaintiffs and the Class;

c. Award the Class treble damages;

d. Award reasonable attorneys' fees and costs;

e. Award all available pre-judgment and post-judgment interest, to the fullest extent available under law or equity from the date of service of the initial complaint in this action;

f. Decree that Defendants and their co-conspirators have unlawfully conspired to block the emergence of fully anonymous all-to-all trading of IRS open to the buy side in the United States in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1;

g. Decree that Defendants have been unjustly enriched by their wrongful conduct and award restitution to Plaintiffs and the Class;

h. Permanently enjoin Defendants from continuing their unlawful conduct, which has prevented competition from entering the IRS market, a market valuable to not only Plaintiffs and class members but also to the nation's financial system and broader economy for the risk management and liquidity benefits it can provide; and

i. Order such other, further, and general relief as is just and proper.

JURY DEMAND

Pursuant to Federal Rule of Civil Procedure 38, Plaintiffs, on behalf of themselves and the proposed Class, demand a trial by jury on all issues so triable.

DATED: New York, New York
March 20, 2019

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